Internalized Homophobia, Psychological Distress, and Resilience as Correlates of Substance Use during Sexual Encounters in Young Adult Black Men who have Sex with Men

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ABSTRACT

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Background

Young Black men who have sex with men (MSM) continue to be disproportionately at risk for HIV and other sexually transmitted infections. Substance use – the use of alcohol and other mood-altering drugs – before and during sexual encounters has long been connected with the HIV epidemic, especially in young Black MSM. Substance use can decrease inhibitions and lead to poor decision-making skills, especially in younger men with less sexual experience. Internalized homophobia – a facet of minority stress – may be a particularly important factor that influences substance use before or during sexual behavior, as young MSM may use drugs before sex to escape the psychological distress induced by engaging in the social taboo of sex with other men. In addition, resilience factors may play a key role in blocking the relationship between internalized homophobia and substance use before or during sex. This dissertation aimed to examine relationships between internalized homophobia, psychological distress, and substance use before or during sexual behavior. This dissertation also aimed to construct a model of resilience, as well as determine whether resilience may act as a moderator in the relationship between internalized homophobia and substance use before or during sex.

Methods

Young Black men who have sex with men between the ages of 18 and 34 participated in two phases of this study: 1) a cross-sectional survey (n = 228) and 2) a longitudinal sex diary (n = 153). In the cross-sectional survey, participants answered demographic questions as well as questions about their substance use behavior in the 2 months prior to baseline; they completed the Connor-Davidson Resilience Scale (CD-RISC), the Mastery Scale, and the Social Support from Friends and Social Support from Parents scales. A subset of participants was then followed for 8 weeks. Every week, they reported on their sexual behaviors, substance use behaviors before or during a sexual encounter, and their psychological distress using the Kessler Psychological Distress Scale (K10). Logistic regression was used to analyze the cross-sectional data. Multilevel logistic regressions and multilevel generalized structural equation models were used to analyze the structured diary data.

Results

Men with higher levels of internalized homophobia were also more likely to have used alcohol before or during sex during the eight weeks of the study, but not other substances. Men who had higher levels of internalized homophobia also had higher levels of weekly psychological distress, but psychological distress was not related to drug use. Four factors – hardiness, mastery, peer support and maternal support – were related to resilience. This construct of resilience did not moderate the relationship between internalized homophobia and substance use before or during sexual intercourse. However, peer support alone did moderate the relationship between these two variables – men who had higher levels of peer support had a weaker relationship between internalized homophobia and alcohol use.

Conclusions

The findings of this dissertation suggest that stigma, in the form of internalized homophobia, may be an important structurally-related factor that influences alcohol use before or during sex in young Black MSM. The results also highlight the importance of considering protective resilience factors that may weaken this relationship; however, the way in which resilience works in this relationship may be complex. Although the idea of a composite construct of resilience was supported, this composite construct did not moderate the relationship between internalized homophobia and drug use. However, peer support alone did, lending credence to the idea of resilience as a complex construct whose separate indicators may moderate relationships differently. This research has valuable implications for designing HIV and substance use prevention interventions in young Black MSM.

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CHAPTER I: INTRODUCTION

HIV is a significant burden for young Black men who have sex with men (MSM). Although MSM only represent about 2% of the US population, they represented 63% of all new HIV infections in 2010 (Centers for Disease Control and Prevention, 2008b). Black MSM represented 36% of those new HIV infections in MSM, even though they make up a significantly smaller proportion of the population of MSM (Centers for Disease Control and Prevention, 2008a). More new HIV infections occurred in young Black MSM, aged 15 to 29, than any other age or racial group of MSM. Over time, the epidemic has actually been increasing in this population; new HIV infections are increasing in young MSM, Black MSM, and MSM in general (Centers for Disease Control and Prevention, 2008b). The gravity of this epidemic makes it imperative that public health researchers understand factors contributing to HIV transmission in this population.

In MSM, HIV is most often transmitted through unprotected sexual intercourse, or sexual intercourse without the use of a condom (Centers for Disease Control and Prevention, 2010). Because of this, the predominant concern in preventing HIV in this population is typically through decreasing unprotected sexual intercourse, often through decreasing factors that are associated with unprotected sexual intercourse. Researchers have thus devoted significant resources into investigating which factors are associated with unprotected sexual intercourse in MSM – particularly young MSM and MSM of color, who for structural reasons are at heightened risk for HIV (Celentano et al., 2006).

Substance use – the use of alcohol and other mood-altering drugs – before and during sexual encounters has long been connected with the HIV epidemic. Early

in its history, the HIV epidemic was connected with transmission of the virus through shared hypodermic needles used to inject some types of drugs. Since the early 2000s, substance use has become more of an indirect factor in the epidemic in the United States, typically influencing sexual transmission of the virus rather than being a transmission route itself. Researchers surmise several reasons for this association; one, for example, is the clustering of problem behaviors in young adults. Young adults who participate in substance use are more likely to show signs of other problem behaviors, including unprotected sex (Donovan, Jessor, & Costa, 1988). More recent research into situational correlates of unprotected sex suggest that substance use has an event-specific effect on sexual decision-making; in other words, substance use before or during a sexual situation interferes with a person's ability to make good judgments, including the decision to use a condom during sexual intercourse (Boone, Cook, & Wilson, 2013). This may be especially true for younger MSM (Newcomb, 2013). These effects can be exacerbated by having casual sexual partners or multiple sexual partners, which young MSM are more likely to have (Hays, Kegeles, & Coates, 1990).

The cultural and individual factors influencing substance use during sexual encounters are different in young MSM than others. Young MSM may be more prone to the use of illicit stimulant drugs, which may pose a higher risk for influencing risky sexual behavior (Cochran, Ackerman, Mays, & Ross, 2004). Young MSM also combine stimulant drug use with other risky behaviors such as group sex and longer "marathon" periods of sexual behavior (Cohen, Giles, & Nelson, 2004; Stall et al., 2001). McKirnan et al. (1996) have posited that young MSM may use substances during sexual situations to 'cognitively escape' from the distress they face as marginalized members of society, as well as to deal with every day stressors they

encounter. Further research is needed to explore the influences on substance use in young MSM, given its role in HIV transmission risk behavior.

In addition, despite much research examining risk behaviors that contribute to potential HIV risk transmission episodes, there is not much research on factors that may protect young MSM from the harmful effects of substance use. One potential protective factor is resilience. Resilience has been defined as positive adaptations in the face of significant adversity or obstacles; individuals who experience positive outcomes after early hardship and oppression are often considered resilient (Luthar, Cicchetti, & Becker, 2000). Given its role in breaking the relationship between early obstacles and poor outcomes, resilience may play a key role in blocking the relationship between several contextual factors and HIV risk, such as stigma and depression. The field would benefit from a deeper examination of resilience as a potential factor that may induce risk prevention strategies in men who have sex with men, particularly in the context of behavioral interventions for this population (Herrick, Stall, Goldhammer, Egan, & Mayer, 2013). However, to date, the examination of this concept – and examination of any other protective factors - in the literature has been sparse.

Understanding these pathways has significant public health impact. Through describing the contextual influences of substance use, researchers may apply this knowledge to constructing behavioral interventions for MSM. Understanding the impact of structural factors may also impel policy-makers to pay attention to the intersection between structural and behavioral influences on the sexual risk of young MSM.

CHAPTER II: LITERATURE REVIEW

Substance Use in Men Who Have Sex with Men

Prevalence of substance use in men who have sex with men

Researchers have been concerned with characterizing substance use in young sexually active MSM[1] since they seriously began investigating the epidemic in the late 1980s. Injection drug use (IDU) was initially of primary concern, given that it was a main driver of the epidemic at the time due to transmission by shared hypodermic needles. However, as educational campaigns were mounted and awareness of HIV grew, injection drug use declined as a primary driver of the epidemic (Des Jarlais et al., 1989, 1994, 2000; Holmberg, 1996). Researchers then turned to substance use in different contexts as an indirect explanatory factor in the HIV epidemic. These researchers believed that high rates of drug and alcohol use - especially in the context of sexual situations - were partially driving the epidemic by contributing to risky sexual behavior, such as unprotected anal intercourse and multiple sexual partners (Stall & Purcell, 2000). Subsequently, researchers began examining alcohol use in young, predominantly white MSM recruited at gay night clubs and bars. Most of the research that has been done to date on the substance use of young MSM has been done with multiracial, predominantly white samples; thus, most of the conclusions

[1] In this dissertation, the author uses the terms "men who have sex with men" (MSM) to refer to men who have sex with other men, instead of "gay and bisexual men". The term MSM was introduced by research scientists in the early 1990s in an effort to avoid negative focus on identities and instead focus on behaviors that led to risk, as well as to avoid ascribing ill-fitted identities to persons who may not label themselves with those identities (Young & Meyer, 2005). The term "MSM" is problematic in that it can, in many cases, serve to minimize or erase the identity and community of young gay and bisexual men; in many studies cited within this dissertation and in the larger literature, the majority of participants labeled "MSM" identified as gay and bisexual. However, given that this is the predominant terminology used within this literature, the author has chosen to use terms "men who have sex with men" and "MSM" throughout this dissertation.

presented in this section of the literature review are extrapolated from these types of studies.

Recent studies have shown that the majority of MSM do use at least one substance. The most frequently used is alcohol, with over 85% of MSM reporting alcohol use in their lifetime (Halkitis, Kutnick, Rosof, Slater, & Parsons, 2003; Reback, Fletcher, Shoptaw, & Grella, 2013). It is also estimated that more than half of MSM have used at least one drug other than alcohol in their lifetime. Most common among these is marijuana, with about 40-50% of MSM reporting marijuana use in their lifetime (Halkitis, Kutnick, et al., 2003; Reback et al., 2013). Other illicit substances commonly used by MSM are inhalant nitrites, or "poppers"; cocaine, both crack and powdered; ecstasy/MDMA; and crystal methamphetamine (Halkitis, Kutnick, et al., 2003; Halkitis, Parsons, & Wilton, 2003; Reback et al., 2013).

A good deal of the early work on substance use in MSM focused on comparing the prevalence of substance use in MSM to substance use in heterosexual populations. This early research typically found rates of alcohol abuse in MSM much higher than in heterosexual population, in part because samples in these studies were heavily composed of participants recruited from bars and other places in which alcohol was regularly consumed (Stall & Purcell, 2000). However Bux (1996), in his critical literature review of more representative samples of MSM, drew the conclusion that although MSM were less likely to completely abstain from alcohol than their heterosexual counterparts, they were at no higher risk for alcohol abuse than heterosexual men. Results of research about the prevalence of non-injection illicit drug use among MSM are mixed; early research seemed to show that MSM did not use these drugs more frequently than heterosexual men, but more recent

findings contend that the prevalence of drug use in young MSM is higher than their straight male counterparts (Mansergh et al., 2006; Stall & Wiley, 1988).

Social and sexual patterns of substance use among MSM

Although MSM may or may not use alcohol and illicit substances more than heterosexual counterparts, researchers do generally acknowledge that the patterns of use among MSM are different from those among heterosexual men. MSM who use drugs are more likely to use more than one drug. They are also more likely to use stimulant drugs; often several stimulant drugs (including cocaine, ecstasy/MDMA, "poppers", and/or crystal meth) are used together in combination or sequentially in an effort to obtain specific effects (Cochran, Ackerman, Mays, & Ross, 2004; Reback et al., 2013; Stall & Wiley, 1988). Prior research also shows that substance use is interwoven into the fabric of social life for many MSM who are involved in the LGBT community. For example, gay bars and nightclubs have traditionally been a social and community gathering and community space for MSM. The use of alcohol and other drugs is prevalent in these settings, and may lead to an increased a sense of belonging among MSM within them (Kipke et al., 2007; Klitzman, Greenberg, Pollack, & Dolezal, 2002). Because of this, MSM may assign strong social and sexual meanings to certain drugs, and therefore may connect them to social opportunities and community events and spaces. Several studies of young MSM have found that men who participated in more gay community events and more frequently attended gay bars and dance clubs also used more substances than those who did not, suggesting that engagement with the social aspects of the gay community may influence MSM to use substances (Greenwood et al., 2001; Halkitis & Parsons, 2003; Klitzman et al., 2002; Kipke et al., 2007). In addition to this, peer learning norms

may influence MSM - especially young MSM - to partake in substance use; if others are using substances within social venues, young MSM may feel pressured to also partake (Green & Feinstein, 2012).

Just as many substances - especially stimulant drugs - may have social meanings for MSM, these same drugs may have *sexual* meanings for MSM. There is strong evidence that certain substances, such as methamphetamines and/or amyl nitrite ("poppers"), have particular sexual meanings for MSM, and these substances are the ones that may carry the greatest risk of unprotected intercourse and HIV transmission risk in this population (Beckett, Burnam, Collins, Kanouse, & Beckman, 2003). For example, MSM who frequently use commercial sex venues are more likely to certain stimulant drugs – particularly methamphetamines, ecstasy, hallucinogens, and inhalants – than men who do not frequent these types of venues (Halkitis, Kutnick, et al., 2003; Halkitis, Parsons, et al., 2003; Halkitis & Parsons, 2003). Since commercial sex venues tend to be environments in which MSM have multiple sex acts with multiple partners, MSM who use these venues may be more likely to use stimulants in order to enhance the experience – either to promote energy and longevity or to maintain physical sensitivity. In fact, these drugs have been referred to as "sex drugs" by MSM (Parsons & Halkitis, 2002). MSM also cite using methamphetamines to deal with social pressure, avoid conflict with others, and avoid unpleasant emotions (Halkitis, Green, & Mourgues, 2005). Men who frequent public sex venues are more likely to use barbiturate tranquilizers than other men; public sex may be associated with "hanging out" or "chilling" for these men, and so they may choose barbiturate tranquilizers as a way to facilitate those feelings (Flowers, Hart, & Marriott, 1999; Parsons & Halkitis, 2002). In Black MSM in particular, stimulant drug use is associated with unprotected sex with a casual sexual

partner, and are also more likely to use stimulant drugs if they also use erectile dysfunction drugs such as Viagra (Mimiaga et al., 2010). The explanation here may be similar to that in commercial sex venues – combining stimulants with erectile dysfunction drugs may physically enhance a sexual experience for MSM by promoting longevity and sensitivity, but also may lower social barriers – particularly within a racial community in which homophobia can be rampant.

There have been several hypothesized reasons for the connection between sexual behavior and substance use in young MSM. Lewis and Ross (1995) posited that since having sex with other men is a social taboo in the United States, young MSM may use substances initially to make breaking that social taboo easier. Once they have begun a pattern of having sex while under the influence of drugs, they may find it difficult to break this habit. In addition, young MSM may specifically use stimulant drugs in sexual situations to make sexual intercourse easier or more pleasurable. Young MSM also combine stimulant drug use with other risky behaviors such as group sex and longer "marathon" periods of sexual behavior, possibly in an attempt to extend the duration of their sexual encounter (Cohen et al., 2004; Stall et al., 2001). MSM may also combine substance use with encounters with non-primary or casual sexual partners, making condom use negotiation more difficult and raising the likelihood of unprotected sex (Vanable et al., 2004). Research suggests that this relationship also holds for young Black MSM. Mimiaga and colleagues (2010) found that one in three Black MSM in their sample reported using crack, cocaine, and/or crystal meth at least one per month in the past year, and they were far more likely to use it if they had had a casual sexual partner in the past year. Higher rates of substance use have also been associated with higher impulsivity and sensation-seeking among young MSM (Patterson, Semple, Zians, &

Strathdee, 2005). Young MSM who are more impulsive and/or more focused on pleasurable sensations may also be more likely to use drugs before or during sexual encounters, allowing their inhibitions to be lowered enough by those drugs to raise the probability of having unsafe sex.

Substance use and health in young Black men who have sex with men

Only recently have researchers turned their attention to specifically characterizing substance use within the population of Black MSM. The few studies that do exist provide conflicting information about the prevalence of substance use in young Black MSM. Most seem to agree that most young Black MSM drink alcohol; prevalence estimates typically exceed 80 percent (Stall et al., 2001). Some studies observe levels of illicit drug use in Black MSM that are fairly low, ranging from lifetime prevalence of about 4 percent for crack cocaine to 12 percent powder cocaine (Harawa et al., 2004). Others have found much higher prevalence rates. Marijuana use is particularly ubiquitous; one study found that nearly 70 percent of young MSM used marijuana in the year prior to the study, and black MSM did not differ from their peers (Greenwood et al., 2001). One large-scale study of urban Black MSM found that about 49 percent had used methamphetamines in the four months prior to the study; another found that 37 of young Black MSM in the same had used crack cocaine in their lifetime (Halkitis & Jerome, 2008; Tobin, German, Spikes, Patterson, & Latkin, 2011). Similarly mixed findings exist with regards to substance use in conjunction with sexual behavior. One such study observed that 34 percent of young Black MSM used stimulants at least monthly during sex (Mimiaga et al., 2010).

Researchers have also attempted to compare young Black MSM's substance use with that of their white counterparts. Findings have been mixed, with some

researchers reporting that young Black MSM are just as likely as their white peers to use substances and others reporting that they are actually *less* likely than white MSM to use substances (Millett, Flores, Peterson, & Bakeman, 2007; Millett, Peterson, Wolitski, & Stall, 2006; Magnus et al., 2010). These findings also differ by substance. Young Black MSM are just as likely as their white peers to drink alcohol; past research has found no differences in alcohol use among young MSM on the basis of race (Greenwood et al., 2001; Halkitis et al., 2005; Irwin & Morgenstern, 2005; McKirnan, Vanable, Ostrow, & Hope, 2001; McNall & Remafedi, 1999). Past research also suggests that young Black MSM engage in lower overall illicit substance use, specifically with equal or lower use of methamphetamine, nitrite inhalants, and powdered cocaine (Harawa et al., 2004). The one exception seems to be crack cocaine. Black MSM are more likely than other MSM to report using crack cocaine, and in multiracial studies of MSM, the vast majority of those who reported using crack cocaine have been Black (Boone et al., 2013; McKirnan et al., 2001; Ober, Shoptaw, Wang, Gorbach, & Weiss, 2009; Sullivan, Nakashima, Purcell, & Ward, 1998). Most of the research on the prevalence of substance use in young Black MSM has been done in primarily white, multiracial samples in which Black MSM were in the minority. Therefore, it is important to do a focused study of substance use in young Black MSM to describe substance use and its correlates in this population.

Characterizing substance use and its antecedents in young black MSM is important for a variety of reasons. Substance use has many deleterious effects on mental and physical health. Substance use can lead to sexual behavior that puts MSM at risk for sexually transmitted infections, including HIV; it also has connections to other poor physical and psychological health outcomes. Given the

higher risk and prevalence of mental health disorders and HIV infection in young Black MSM, it is crucially important to study substance use in this population.

One of the most commonly explored health connections is between substance use and risky sexual behavior. Substance use has long been linked with risky sexual behavior (see Leigh & Stall, 1993, for a review). Given the prevalent use of substances as a facilitator of social and sexual engagement for MSM, the connection between substance use and sexual behavior has been repeatedly explored in this population. Many studies have established the relationship between substance use and sexual risk behavior in young MSM - chiefly, unprotected anal intercourse, but also multiple sexual partners and casual and anonymous sexual partners (Purcell, Parsons, Halkitis, Mizuno, & Woods, 2001).

Young Black MSM's disadvantaged social position in society relative to their white peers may strengthen the potential impact of using substances during sex. Young Black MSM are more likely to have a history of or current sexually transmitted infection, which increases risk for contracting other STIs and HIV (Millett et al., 2006). If they are HIV-positive, young Black MSM are less likely to be aware of their own HIV infection, and less likely to be on antiretroviral therapy (Hays et al., 1997; Heckman, Kelly, Bogart, Kalichman, & Rompa, 1999; MacKellar et al., 2005). Young Black MSM sometimes find their sexual networks limited; due in part to racial discrimination and segregation, they are more likely to have Black sexual partners (Bingham et al., 2003). Their sexual partners are thus overwhelmingly facing all of the same challenges they are - higher rates of STIs, more undetected HIV infection, and lower rates of ART. Therefore, although young Black MSM may use substances at the same rates as their white counterparts, they are disproportionately more likely to suffer the negative consequences of using substance use during sexual situations.

This is one reason that public health researchers should focus attention on uncovering the correlates of substance use specifically among samples of young Black MSM.

Social Stress Theory and Health

Social stress theory

Stressors are defined as events that cause change. That change, in turn, requires adaptation to survive the new situation (Pearlin, 1989). These external events or conditions - and their subsequently required adaptations - are taxing to individuals. By definition, dealing with the adaptations required in stressful situations exceeds a person's ability to cope and endure, and thus has the potential to induce distress (Dohrenwend, 1998). The majority of early research focusing on the connections between stressful experiences and physical and mental health focused primarily on major life events, such as divorce and death of close others. This early research discovered links between major life events and various health outcomes (Dohrenwend et al., 1982). However, evidence begun to emerge that investigating only major life events was not fully elucidating the connections between stress and health. For example, in a sample of 100 middle-aged adults, DeLongis et al. (1982) found that the hassles of every day life – such as conflicts at work, financial concerns, and lack of time for family - had a stronger relationship to physical health outcomes than major life events, and that chronic strain and major life events actually shared most of the variance in physical health. Similar results were found in relation to psychological distress; in a longitudinal study, chronic life strains were a better predictor of psychological symptoms than major life events (Kanner, Coyne,

Schaefer, & Lazarus, 1981). Pearlin, in his 1989 article, suggested that major life events are actually "surrogate indicators of noneventful, ongoing circumstances". In other words, most major life events were not surprising or isolated incidents, but the result of the accumulation of more minor struggles and chronic strains. This explains in part why chronic strains and major events share so much variance. Pearlin posited that researchers were missing the ongoing life stressors because they were focusing primarily on the major event, not its antecedents or consequences; he suggested that the relationship between stress and negative health outcomes are better explained by "chronic life strains", or the "continuing circumstances in which the event is embedded" (Pearlin, 1989, p. 244). Thus, social science researchers became interested in external influences on those chronic life strains.

The theory that social position has an influence on stress is called *social stress theory*. Social stress theory expanded upon the idea of chronic life strains. An underlying assumption within this theory is that one must be seen and understood through the lens of an individual's interactions with his or her social environment (Allport, 1954). In their delineation of the stress process, Pearlin and colleagues (1981) noted that stressors could include social and environmental factors in addition to biological and personal factors. Given that social scientists are primarily interested in social influences on individual processes, it was suggested relatively early that chronic strains do not occur randomly. The stressors that people face are influenced by their position within society, especially systemic stratification such as class and race (Pearlin, 1989). Since conditions in the social environment will differ along lines of social stratification, a person's social position will result in differing environmental impacts on those from marginalized/oppressed groups. One's "social location" within society has a bidirectional relationship with stress: social location

can be a cause of stress, as those with lower social location may deal with more stressful experiences as a result of their low position; however, social location can also be a result of stress, as more psychological and social disorder in one's life could cause one to become selected out of high-status social roles (Aneshensel, 1992).

Pearlin et al. (1981) also defined mediators and moderators of stress - that some influences on the stress process may have mediating effects through which the stressor operates, and others may have moderating effects that change the strength or direction of the relationship between the stressor and the outcome. The three types of mediators and moderators that Pearlin et al. named were coping strategies, personal resources (such as self-efficacy, or a belief in one's personal abilities and self-control; and hardiness, a greater sense of control and persistence in the face of challenges), and social support (Pearlin et al., 1981). These mediating and moderating influences can work positively or negatively; a person could have high self-efficacy but poor social support, or positive social support but maladaptive coping strategies. Several researchers have also noted that the distribution of the mediating and moderating resources are also partly determined by social position; marginalized persons may have fewer personal resources, weaker coping strategies, and less accessible social support than those in higher social positions (Aneshensel, 1992).

There has been long-term support for social stress theory in conceptual and empirical research, going back as early as 1969 and corresponding to all manner of socially marginalized positions, including marginalized races, socioeconomic classes, gender identities, and sexual identities (Baum, Garofalo, & Yali, 1999; Dohrenwend & Dohrenwend, 1974; Dressler, 1991; Matud, 2004; Meyer, 2003; Perry, Harp, &

Oser, 2013; Williams et al., 2012; Williams, Neighbors, & Jackson, 2003). There is also much support for the theory that marginalized persons have fewer positive mediating and moderating resources; they use more negative coping strategies, have less accessible and positive social support, and often experience lower levels of personal self-efficacy and hardiness (Meyer, Schwartz, & Frost, 2008; Wheaton, 1985). There is an extensive literature connecting stressful experiences with negative physical and psychological outcomes (Harris, 1995). Higher levels of stress have been connected to high blood pressure, hypertension, diabetes, and other cardiovascular problems (Borrell, Kiefe, Williams, Diez-Roux, & Gordon-Larsen, 2006), to immune system functioning (Keller, Schleifer, Bartlett, Shiflett, & Rameshwar, 2000; Starkweather, Witek-Janusek, Nockels, Peterson, & Mathews, 2006); to faster HIV disease progression (Evans et al., 1997; Leserman, 2008); and to poor mental health outcomes, such as depression and anxiety (Bolger, DeLongis, Kessler, & Schilling, 1989; Bolger & Eckenrode, 1991; Bolger & Zuckerman, 1995; Cohen, Kessler, & Underwood Gordon, 1997; Holahan & Moos, 1991; Shrout et al., 1989). The important influence of stress on personal health necessitates further study into this area.

Stigma, prejudice and discrimination as social stressors

One way in which marginalized social position may influence environmental and social stressors is through experiences of stigma - and the concomitant prejudice and discrimination - by minority group members. The progenitor of this research was Erving Goffman, whose 1963 book *Stigma: Notes on the Management of Spoiled Identity* introduced the concept of social stigma as a "attribute that is deeply discrediting," turning a person into a "tainted, discounted [person]" (Goffman, 1986,

p. 3). Being that stigma can be applied to a variety of social identities and categories - and that the concept has been studied in a multidisciplinary way by all kinds of social and behavioral scientists - stigma is a complex phenomenon, and has been defined in many different ways since Goffman's original delineation. Stafford and Scott (1986) noted that the conceptualization of stigma, over 20 years after publication of Goffman's book, was still "vague and uncritical," and proposed that stigma "is a characteristic of persons that is contrary to a norm of a social unit" (p. 81). Building upon Goffman's definition, Crocker, Major, and Steele (1998) explained that stigma called into question a person's "full humanity" by virtue of their membership in some marginalized social category or social identity.

Link and Phelan (2001) proposed a reconceptualization of stigma from a social psychological perspective. In this conceptualization, humans by nature categorize people into groups and construct hierarchies with these groups. What makes stigma damaging is that certain human differences - such as minority race and sexual orientation - are associated with negative attributes, and people naturally rank people who hold stigmatized identities lower in the social hierarchy. These negative attributes are also generalized to the entire group, regardless of individual members' individual actions and personalities – the basis for stereotyping. These negative stereotypes lead to stigmatized persons being separated from the non-stigmatized, causing them to experience status loss and discrimination - which, according to Link and Phelan (2001), is what links disadvantaged people to lower psychological well-being and overall physical health, among other things.

It is important to note, however, that stigma has both structural and individual facets. Recently, greater attention has been paid to conceptualizing stigma

on a structural level, as a critical process for maintaining systems of power and dominant societal norms. As Parker & Aggleton (2003) note:

> *Stigma plays a key role in producing and reproducing relations of power and control. It causes some groups to be devalued and others to feel that they are superior in some way. Ultimately, therefore, stigma is linked to the workings of social inequality and to properly understand issues of stigmatization and discrimination, whether in relation to HIV and AIDS or any other issue, requires us to think more broadly about how some individuals and groups come to be socially excluded, and about the forces that create and reinforce social exclusion in different settings.* (p.16)

This conceptualization contrasts with previous understandings that were limited to thinking of stigma in terms of individual-level and inter-group processes, as opposed to taking a more systemic approach that incorporates social, economic, political and cultural forces tied to power and privilege. Parker and Aggleton (2003) note that most past research examining stigma in the social sciences have conceived of stigma as something "individuals *do* to other individuals" as opposed to a systemic force that is used to create, shape, and reinforce structural power and social exclusion (p. 16).

Using a structural framework to think about stigma is critical in truly understanding the effects of stigma in marginalized people, particularly young Black MSM. Longstanding prejudice and discrimination based on minority group membership - race, sexual orientation, socioeconomic status, or a variety of other marginalized identities - can directly and indirectly cause daily hassles and major life events that require adaptation and can, under most stress paradigms, be conceptualized as stressful (Allison, 1998; Ross & Mirowsky, 1989). However, although discrimination often works from an external standpoint - flowing from people higher in the social hierarchy downwards towards people placed lower in the hierarchy - an important consequence of ongoing stigmatization is how negative stereotypes may permeate the beliefs of stigmatized individuals and change their

own behaviors. When a cultural stereotype about a particular identity exists, people form expectations about how individuals will react to a person with that identity or stigma. Those expectations have personal relevance to people who actually have that identity. Pinel (1999) labeled this "stigma consciousness," or the extent to which stigmatized individuals expect to be stereotyped and/or subject to discrimination during an interaction purely on the basis of their identity. This is directly linked to Parker and Aggleton's (2003) conceptualizing of stigma as a more systemic force. In essence, no one has to "do" stigma to stigmatized individuals; the structures and social processes for reinforcing social hierarchies and inequities are already in place, and marginalized people live with these every day – even without the direct intervention of privileged classes.

Previous research has found support for the idea that awareness of negative stereotypes about one's identity increases defensiveness and susceptibility to negative outcomes. Mendoza-Denton et al. (2002) found that Black college students with high expectations of rejection based upon their race experienced greater discomfort during their transition to college and lower grades. Several other studies have shown that racial/ethnic minorities who expected whites to be more prejudiced experienced more stress and anxiety during interethnic/interracial interactions, had more negative experiences during these interactions, and were more likely to attempt to avoid these interactions (Plant, 2004; Shelton, Richeson, & Salvatore, 2005; Tropp, 2003). As a result of this heightened level of stress, stigmatized individuals' own behaviors and attitudes during interactions with those in non-stigmatized groups can prompt unfavorable responses from the non-stigmatized - which simply restarts a cycle in which majority groups assign negative attributes derived from

those unfavorable responses to the stigmatized groups (Pinel, 2002; Trawalter, Richeson, & Shelton, 2009).

Most of this previous work, however, has been done with visible stigmas - primarily race and gender. Fewer studies have concentrated on the effects of stigma, including internalized stigma, in those with concealable stigmas. A concealable stigma as a "stigmatized identity that is not immediately knowable in a social interaction," such as sexual orientation (Quinn, 2006, p. 84). Those with concealable stigmatized identities can, for the most part, choose situations in which they feel safe enough to reveal their identity. While this may come with some immediate benefits, people with concealable stigmas also have additional concerns to deal with, such as the additional cognitive load required to keep a concealable stigma hidden. Goffman himself noted that people may encounter psychological strain in trying to conceal their hidden stigma (1986). For example, people with concealable stigmas are more likely than those with visible stigmas to pay close attention to the words and tones of a conversational partner and are more mindful of cues of discrimination (Frable, Blackstone, & Scherbaum, 1990). Other research conducted in the mid-1990s with sexual minorities shows that concealing one's stigmatized sexual orientation was associated with a variety of negative physical health outcomes, such as respiratory infections and HIV disease progression (Cole, Kemeny, & Taylor, 1997; Cole, Kemeny, Taylor, & Visscher, 1996).

Early research on stigma consciousness was conducted with people with mental illnesses, a type of concealable stigma; these studies showed that that people with mental illnesses are well aware of persistent negative stereotypes about people with mental illnesses (Angermeyer & Matschinger, 1994). In addition, that

awareness has been associated with people with mental illnesses acting less confidently and more defensively during interactions with non-mentally ill people, as well as simply avoiding these threatening interactions altogether (Angermeyer & Matschinger, 1996; Farina, Allen, & Saul, 1968; Shrout et al., 1989). Quinn & Chaudoir (2009) examined an expanded set of concealable identities, including physical medical conditions such as epilepsy, mental disorders, a history of substance use, a history of criminal behavior, and sexual orientation. Previous results still held with this group - even for those with concealable stigmas, a greater anticipation of discrimination within interactions was associated with greater psychological distress.

Herek and colleagues (2009) outlined the application of concepts of stigma specifically to sexual minorities, with sexual stigma deigned as "the stigma attached to any non-heterosexual behavior, identity, relationship, or community" (Herek et al., 2009, p. 67). As in the overarching stigma concept, those who engage in non-heterosexual behavior or espouse a non-heterosexual identity are separated from heterosexual people, labeled deviant, and assigned a variety of negative stereotypes. This is achieved by rendering gay, bisexual, and lesbian people invisible in society and perpetuating the belief that non-heterosexual behaviors and identities are "unnatural" and inferior - the "status loss" outlined in Link and Phelan's (2001) conception of stigma. Herek also related sexual minority stigma to stigma consciousness through the lens of *felt stigma*, or the expectancies about the probability that stigma will be enacted in a way that directly affects a sexual minority group member. He proposed that felt stigma could induce stress, as sexual minorities will engage in behaviors designed to cope with the stress and sometimes

conceal their stigma, just as in earlier studies of other people with concealable stigma. This relationship has been supported with sexual minorities; sexual minorities must monitor their own behaviors in order to conceal their identity and prevent potential attackers from learning their sexual orientation (Herek, 1996). However, this concealment also negatively impacts members of sexual minorities; it involves constant effort and an increased cognitive load, and can interfere with normal social interactions (Herek, 1996).

Stigma and health under social stress theory

More recently, researchers have turned to extending the social stress paradigm as a way to examine the health of minorities. Specifically, researchers have been interested in the impact of stress related to sexual minority status in the United States to psychological and physical health. Social psychological theories of stress and its relationship to health shed some light on a possible link between stigma-related stressors and health in sexual minorities.

Individual-level stigma factors, such as enacted stigma and perceived stigma, have been consistently linked with worse physical and mental health in LGB persons. MSM are more likely than heterosexual men to evidence symptoms of depression, anxiety, mood disorders, panic disorders, substance use and suicidal ideation (Cochran, Sullivan, & Mays, 2003; Cochran & Mays, 2000; Gilman et al., 2001). Black MSM evidence higher levels of psychological distress than white gay men or Black heterosexual men (Cochran & Mays, 1994). MSM who personally experience more life stressors related to their sexual identity and behavior have higher levels of emotional distress and depression and lower self-esteem (Frost, Parsons, & Nanin, 2007; Rosario, Rotheram-Borus, & Reid, 1996). Intrapersonal awareness of and

attention to personal stigmas also seems to be associated with distress. In one study with gay, lesbian, and bisexual individuals, stigma consciousness was related with more depressive symptoms (Lewis, Derlega, Griffin, & Krowinski, 2003). These high levels of stigma-related distress are also related to physical health risks. Several studies have provided evidence for a positive relationship between stigma-related stress and sexual risk behavior in MSM, including unprotected anal intercourse, substance use, multiple casual partners, and non-disclosure of HIV serostatus (Overstreet, Earnshaw, Kalichman, & Quinn, 2013; Preston et al., 2004; Preston, D'Augelli, Kassab, & Starks, 2007; Radcliffe et al., 2010; Stall et al., 2001; Starks, Payton, Golub, Weinberger, & Parsons, 2013; Wong, Weiss, Ayala, & Kipke, 2010).

Very recently, a few researchers have begun exploring the role of structural stigma in the health of people with marginalized social positions. These recent studies have found empirical support for a relationship between structural forms of sexual minority stigma - such as discriminatory policies and laws, community violence against LGB persons, and general anti-gay bias within communities and neighborhoods - and psychological and physical health of sexual minorities. For example, young LGB adults raised in states with more policies that specifically discriminated against LGB people had a blunted cortisol response following a stress test; blunted cortisol responses are associated with high levels of sustained stress (Hatzenbuehler & McLaughlin, 2014). Marriage laws seem to be a particularly important facet of structural inequality, especially during a time in which there is much social conflict over the marriage rights of LGB adults. LGB adults who lived in states with gay marriage bans also had higher prevalence rates of mood disorders, generalized anxiety disorder, alcohol dependence, and psychiatric comorbidities than

did LGB adults living in states without the bans and heterosexual adults in any state (Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010; Rostosky, Riggle, Horne, & Miller, 2009). In addition, LGB people in legally-recognized relationships had lower levels of depressive symptoms than LGB people who were in long-term committed, but not legally-recognized relationships (Riggle, Rostosky, & Horne, 2010). On a smaller scale, community-level prejudice seems to also play a structural role in the health of sexual minorities; Hatzenbuehler et al. (2014) found that sexual minorities living in communities with high levels of anti-gay prejudice experienced lower life expectancies than those living in lower-prejudice communities. The difference was as large as 12 years of life; the elevated causes of mortality were also primarily stress- and violence-related causes, such as suicide, homicide, and cardiovascular disease (Hatzenbuehler et al., 2014).

The Minority Stress Model

The *minority stress* model has been used to elaborate upon the idea of stress in a social context for minorities, especially MSM. The term "minority stress" was first used by Brooks (1981) in describing stress experiences of lesbian women, and defined as "psychosocial stress derived from minority status." The framework was most fully outlined by Meyer (1995, 2003) – first primarily using the context of gay and bisexual men, and later expanding to discuss sexual minorities in general. Meyer states that minority stress is not based upon a single theory, but is inferred from these earlier psychological theories social stress theory and more general theories about stigma. Particular influences include work by Lazarus and Folkman (1984), which describes the essence of all stress as a conflict between an individual's

personal resources and their experience of the demands of society; as well as the work of Ross and Mirowsky (1989), pointing out the incongruence between minority and dominant values and the resulting conflict that produces stress for minorities.

The minority stress model posits that minorities - including MSM - are subjected to chronic stress related to being stigmatized and discriminated against in society. A conflict between the "mainstream" values of the dominant societal groups and the minority values of an oppressed group causes a disjuncture between the needs of individuals within minority groups and what the social structure actually provides them. In other words, members of oppressed minority groups cannot always reconcile their identities with the demands of the dominant culture, and this mismatch is a stressful experience for them on a daily level (Meyer, 1995). This can be especially true for MSM. As discussed earlier, MSM can conceal their stigmas; while this might confer the benefit of choosing when to reveal a potentially "discreditable" characteristic, the concealment of stigma requires psychological resources that tax a person and can create additional stress loads. Even MSM who do not actively conceal their stigmas are often assumed to identify as heterosexual (or assumed to have sex only with women) due to heterosexism. Thus, MSM are constantly negotiating a conflict between presenting their authentic selves and attempting to appear as "normal" (heterosexual, in a heterosexist world) as possible to avoid stigmatization and separation from the dominant, empowered heterosexual majority (Sellers & Shelton, 2003).

Under the minority stress model, not only do members of minority groups face stressors unique to them as minorities – such as discrimination and identity-based violence – but they also are more prone to more ordinary life stressors that all

people experience, and are less equipped to deal with them (Diamond, 2003). Meyer found in his early work that when they do experience distress, it is usually in areas consistent with the minority stress hypothesis such as self-acceptance and feelings of alienation (Meyer, 1993, 1995). Later studies also supported this minority stress conceptualization: Mays and Cochran (2001) found that gay and bisexual individuals experienced more lifetime discrimination, and that this perceived discrimination was associated with the elevated levels of psychological distress they experienced. In addition, a nationally representative sample of nearly 3,000 adults showed that MSM evidenced higher prevalence rates of depression, panic disorder, and psychological distress than their exclusively heterosexually-behaving male counterparts (Cochran et al., 2003). Other studies supported this connection, showing that gay and bisexual men suffer from more depressive symptoms, more mood disorders, more suicidal ideation, and more actual attempts at suicide than their straight male counterparts (Cochran, 2001; de Graaf, Sandfort, & ten Have, 2006; Gilman et al., 2001; Herrell et al., 1999; Sandfort, de Graaf, Bijl, & Schnabel, 2001). These higher rates of mental health distress have been connected to both individually experienced discrimination (Lewis, 2003; Mays & Cochran, 2001) and structural-level stigma, such as places with anti-gay school climates and those that lack protections against employment discrimination and hate crimes for gay and bisexual-identified people (Hatzenbuehler, Birkett, Van Wagenen, & Meyer, 2013; Hatzenbuehler et al., 2010; Hatzenbuehler, 2010).

Three main processes of minority stress

Meyer (1995) suggested three main processes of minority stress for men who have sex with men: (1) external stressful events that result from acute or chronic

occurrences of stigma, prejudice, or discrimination from others; (2) the expectation of experiencing such discrimination and prejudice, and the mental vigilance that expectation requires; and (3) the internalization of negative societal attitudes. Experienced discrimination and prejudice is the most overt of these processes; it is actual enacted stigma against sexual minorities, such being called a gay slur or being the victim of physical violence or emotional abuse due to one's sexual identity or behavior. A national probability sample of gay, lesbian, and bisexual-identified adults report that half had experienced verbal harassment, about 20 percent had experienced a personal or property crime, and more than 10 percent had personally experienced employment or housing discrimination because of their sexual orientation (Herek, 2009). A study with young MSM aged 18 to 27 found that 5% had experienced physical violence due to their sexual orientation in just the six months prior to the study (Huebner, Rebchook, & Kegeles, 2004). Other studies with sexual minorities, particularly sexual minority youth, show that up to 1 in 5 experience sexual assault, nearly half have been threatened with physical behavior, and as many as one in 10 may experience physical violence or attacks because of their sexual orientation (D'Augelli, Grossman, & Starks, 2006; Pilkington & D'Augelli, 1995). Herek (2009) comments that hate crimes against sexual minority individuals may be especially tied to psychological distress because they direct attack a person's personal identity and community membership, which can be core parts of a person's identity. They activate the concept of separation and status loss within sexual minority individuals; acts of violence and discrimination signify to the sexual minority target that the heterosexual majority rejects them and heightens their fears of future violence, inducing stress (Brooks, 1981; Garnets, Herek, & Levy, 1990).

The sense of threat is intimately tied up with experiences of violence; Herek and colleagues (2009) write that this is connected to felt stigma. Sexual minorities' awareness of structural and individually enacted stigma - whether they personally experience it, experience it vicariously through friends or relatives, or hear about it national news media - increases their expectancies of enacted stigma and discrimination. As discussed earlier, this may cause MSM to engage in behaviors to attempt to protect themselves from it - such as restricting their interaction with the heterosexual majority or engaging in hypervigilance in an attempt to monitor their social landscape for signs of enacted stigma. This is connected to another process of the minority stress model, perceived stigma. Due either to prior experiences with enacted stigma or a general awareness of it, MSM may perceive the heterosexist majority as unable to accept them or interact with them in egalitarian, non-threatening ways. This perception leads them to be vigilant for prejudiced events - any sign that they may soon be the targets of violence or discrimination (Meyer, 1995). This vigilance is stressful; the person in question must direct extra cognitive resources to their process of monitoring for possible discrimination in interactions. In addition, the vigilance strategy many MSM choose to deal with their fears of enacted stigma may be concealment of their identity or behavior - which, as already discussed earlier, can be particularly stressful. Ironically, the additional stress and vigilance can actually cause sexual minorities' identities to become more salient and prominent in an interaction, and can thus cause sexual minority members to be perceived negatively or seemingly confirm stereotypes about their group membership (Jussim, Palumbo, Chatman, Madon, & Smith, 2003; Smart & Wegner, 1999).

Internalized homophobia as a minority stress process

A third process, termed 'internalized homophobia,' is the most proximal of the processes, as it occurs within an individual. Meyer and Dean (1998) define internalized homophobia as an individual's direction of anti-gay attitudes towards themselves. As stated earlier, social stigma is a structural factor, and members of minority groups become aware of societal stigma very early in their lifetimes through overt and covert social processes (Hatzenbuehler, Phelan, & Link, 2013; Link & Phelan, 2001). Young MSM absorb society's negative attitudes about same-sex attraction and sexual behavior at a very early age, often before they realize that they themselves experience same-sex attraction (Davies, 1996; Isay, 1989). Members of sexual minority groups are generally aware of the inferior status that is associated with sexual minority identities and behaviors. They are also aware of the hostility and negative stereotypes attached to members of these groups (Herek et al., 2009). As young MSM begin to explore their own sexual identity and attraction, these formerly distal social attitudes now gain proximal psychological importance. They may begin to apply these negative attitudes towards men with same-sex sexual attractions to themselves and incorporate them into their own self-concept and identity (Lazarus & Folkman, 1984). They may witness or be the targets of enacted stigma and discrimination, reinforcing those anti-gay attitudes.

Ironically, this incorporation may actually be a defense mechanism. Allport (1954) suggested that stigmatized individuals sometimes denigrate themselves and identify with their aggressors in an attempt to cope with victimization; they may feel that by aligning themselves with the majority group that they can gain back some of the status and power lost by their identity. Other theories have characterized

internalized homophobia as a failure within the coming-out process. As young MSM grow up and begin identify themselves as gay or bisexual and/or associate themselves with the gay community, a primary goal of the process is to challenge some of the negative stereotypes about their new identity and community. Some, however, may be unable to fend off negative attitudes and actions (Malyon, 1982; Meyer, 2003).

Internalized homophobia, then, may be especially salient to young MSM, as they are more likely to be engaged in various stages of the coming-out and identity development processes. Younger men may be less able to understand reasons for the attacks on them, given less cognitive and emotional development. Also, young MSM may be less able to access the social support to withstand and process these attacks, since they may not yet have developed a social network that allows them do so (Safren, Reisner, Herrick, Mimiaga, & Stall, 2010). Furthermore, until they come out, young MSM have less access to the gay community and to out gay and bisexual role models who can assist them in developing a healthy self-concept that incorporates their new identity or behaviors (Hetrick & Martin, 1984). However, internalized homophobia may persist beyond the early coming-out process, even after a person has accepted his sexual identity. For example, adult experiences of identity-based victimization can heighten feelings of internalized homophobia, as victims attempt to make sense of their victimization and prevent it from happening again (Garnets et al., 1990).

Internalized homophobia is different from both stigma consciousness and felt stigma experienced by sexual minorities. Stigma consciousness is simply the awareness that the negative stigma against sexual minority identity may result in negative treatment and perceptions by heterosexuals; it does not require a belief in

those negative attitudes. Felt stigma takes stigma consciousness a step farther, insofar that it involves expectancies about the likelihood that discrimination or prejudice will be experienced during a given interaction; still, though, it does not require belief in the negative perceptions of sexual minority group members. Internalized homophobia, by contrast, is the actual adoption of those negative beliefs and stereotypes by gay and bisexual men. MSM who internalize sexual stigma adapt their own self-concept to be congruent with society's prevailing views of them, incorporating the negative attitudes of the majority into their views of themselves (Herek et al., 2009). Because of this incorporation, internalized homophobia can have a profound effect on the developing identity of a young MSM. The homophobic attitudes of dominant society become a core aspect of the young man's psychological ego, and influences any further identity formation and refinement - including self-esteem, development of coping defenses, and social relationships with others (Malyon, 1982). As mentioned earlier, this often happens during a key developmental period in a young man's life, and can have lasting effects on his identity and self-concept.

Internalized homophobia can manifest in a variety of ways. Gonsiorek (1988) distinguishes between covert and overt internalized homophobia. Occasionally, a member of a sexual minority group may openly label himself as "evil" or deviant and engage in self-destructive behaviors in an attempt to punish himself for his sexual identity or behaviors. Given how psychologically painful and unstable this situation is, however, most people who live with internalized homophobia experience it in a covert form. Outwardly, people with covert internalized homophobia appear to accept themselves; they may even be engaged with and connected to sexual minority communities and appear quite healthy. However, they may sabotage their own

efforts to live a healthy lifestyle in more subtle ways than one experiencing overt internalized homophobia (Gonsiorek, 1988). For example, they may tolerate and attempt to justify discrimination and prejudice from heterosexist others; they may deliberately poorly conceal their identities, then blame themselves if there is a negative reaction from a heterosexist other. This negative self-perception may be extended outward into the gay community; those experiencing high levels of internalized homophobia may have unrealistically high expectations for the behavior of other sexual minority group members, and may heavily criticize members of their community who do not meet those expectations. People with this form of internalized homophobia often assume that they do not deserve healthy social contacts and relationships. As a result, they may also deliberately spark negative discussion, controversy, or conflict within their sexual minority communities - either in an effort to punish themselves or to "expose" members of their own communities. This may cut a person with high levels of internalized homophobia off from a potentially supportive community that may help them to face and overcome their internalized levels of stigma. Research has provided evidence for these consequences; MSM with higher levels of internalized homophobia tend to have lower levels of connection to gay communities and lower levels of social support (Herek, 1998).

Internalized homophobia and young Black MSM

Much less research has been focused specifically on experiences of internalized homophobia in Black MSM. The majority of what has been written on internalized homophobia in this population has been theoretical in nature, drawing from other sociological and psychological theories of oppression and stigma -

primarily from theories of racism derived from research with primarily heterosexual Black and theories of heterosexism and homophobia derived from research with primarily white MSM (Szymanski & Gupta, 2009). With two subordinate group memberships - Black race and sexual minority status – young Black MSM may be intersectionally invisible: because they are the "non-prototypical" member of their respective racial and sexual identity groups, they are further marginalized even within those marginal communities (Purdie-Vaughns & Eibach, 2008). Because of this double-minority status, young Black MSM may feel isolated and ostracized from both the communities related to their sexual identity and their racial identity.

In general, the Black community has been characterized as less accepting of homosexuality and more overtly homophobic than mainstream white society. A recent nationally representative study of Americans found that 72% of Black Americans considered homosexuality to be "always wrong"; this study also indicated that Black attitudes towards homosexuality have been largely unchanged since the 1970s (Glick & Golden, 2010). Limited research seems to indicate that young Black MSM are well aware of the negative stereotypes that their racial communities hold, and it directly affects their own beliefs. In the same national survey, over half of black MSM also reported that they believed homosexuality was always wrong (Glick & Golden, 2010). A qualitative study with young MSM found that young Black MSM perceived the Black community to hold more negative attitudes towards homosexuality and to be less accepting of their sexual identities and behaviors than the mainstream white community (Beeker, Kraft, Peterson, & Stokes, 1998). Young Black MSM often get these negative messages about their identity from churches and other religious organizations, often focal community centers within Black communities (Stokes & Peterson, 1998a). Young Black MSM report feeling like - or

being directly told - that their sexual identities and behaviors are incongruent with their racial identity, that they were being a "race traitor" for being gay, and that they were negatively representing the Black community because of their sexual identities and behaviors (Herek & Capitanio, 1995; Meyer & Ouellette, 2009; Rosario, Schrimshaw, & Hunter, 2004). Often, they feel like their racial and sexual identities are mutually exclusive, and actively separate them from one another (Malebranche, Fields, Bryant, & Harper, 2009). As a result, young Black MSM also report feeling more pressure to conceal their sexual identities (Cohen, 1999; Lewis, 2003).

However, young Black MSM often experience feelings of rejection and isolation from the predominant white LGB community as well, and are often victims of enacted stigma and discrimination from the white LGB community (Bonilla & Porter, 1990; Herek & Capitanio, 1995; Moradi et al., 2010). Black men are less likely to associate with gay-related groups, participate in gay-related social activities, and have gay and bisexual friends than their white counterparts, and they are also more likely to report gay-related life hassles and discrimination on the basis of their sexual identity or behaviors than white men (Kennamer, Honnold, Bradford, & Hendricks, 2000; Rosario et al., 2004; Siegel & Epstein, 1996). They are also more likely to conceal their identity from greater numbers of people (Rosario et al., 2004). The different levels and quality of perceived and experienced stigma within their different communities may change the face of internalized homophobia for young Black men. In addition, most measures for internalized homophobia have been developed and validated with predominantly white samples. This makes it difficult to correctly measure and describe differences in the ways in which internalized homophobia is experienced in white and black MSM.

Since the coming-out process is crucial in the development of, and resistance to, internalized homophobia, it has been speculated that any possible differential development of internalized homophobia in young Black MSM could be influenced by racial differences in the coming out process. As mentioned, Rosario and colleagues (2004) found that Black youth were less likely to socialize with gay and bisexual friends and less likely to disclose their identity. However, they found that these differences persisted even though Black gay youths did not differ on the time since they first participated in a LGB-related event. Thus, young Black MSM may attempt to participate in LGB-related social activities at the same time in their identity development process as young white MSM, but experiences of perceived or enacted stigma in the white gay community - possibly on the basis of their race - may drive them away from these events. Rosario and colleagues' findings that Black MSM also had less comfort with others knowing their sexual identity and endorsing less positive attitudes towards homosexuality - but no significant differences in personal identity formation - may indicate that only the parts of the coming-out process related to external influences may be delayed in Black MSM. This may be a result of cultural values in ethnic/racial minority communities that punish homosexuality and ethnic/racial prejudice, discrimination in the White LGB community, or both.

Some researchers have proposed an additive stress model to explain the relationship between race-related and sexual identity-related stressors in MSM. An additive model posits that MSM of color experience incremental stress exposure related to each of their disadvantaged statuses. Harper and colleagues (2004) opine that LGB people of color experience multiple layers of oppression; an additive model posits that these layers of disadvantage add to one another, intensifying

disadvantaged social position cumulatively. However, findings investigating an additive stress model have been mixed. Kertzner and colleagues (2009) found that patterns of psychological distress for Black MSM were different, but not necessarily higher, than those for white MSM. This suggests that the stress of being Black does not necessarily simply "add" to the pressures of being an MSM, but rather that these identities interact in unique ways. This has often been termed the "interactive model" or *intersectionality*. Under this model, the identities of people with multiple disadvantaged identities - like Black MSM - cannot simply add together their oppressed identities to come up with some whole; their identities are multidimensional, constituting an inseparable whole (Bowleg, 2008). Therefore, people experience their multiple dimensions of disadvantage as one identity. A young Black MSM does not separately endure the trials of being Black and a man who has sex with other men; the two identities intersect, and it is difficult to separate the disadvantages and experiences precipitated by the status conferred by them.

It is important to note, though, that most of this work has been theoretical and not empirical. To date, there are very few studies comparing levels of internalized homophobia in black MSM to those in their white counterparts – so it is very possible that young Black MSM suffer equal or lower levels of internalized homophobia than young white MSM. One study with LGB individuals of all genders found no racial differences in internalized homophobia or perceived heterosexist stigma (Moradi et al., 2010).

Internalized homophobia and the health of men who have sex with men

As the most proximal of the three process of minority stress, internalized homophobia has often been classified as the most insidious. The inward direction of these negative attitudes triggers the psychological response, which often leads to deleterious mental health effects (Malyon, 1982). There have been several hypothesized frameworks as to how minority stress "gets under the skin" and leads to poor mental and physical health outcomes for young MSM. Hatzenbuehler (2009) postulated that increased exposure to stress may cause young MSM to less able to regulate their own moods and emotions, leaving them unable to return themselves to an emotional homeostasis after a stressful experience. This is supported by both experimental and community-based evidence. Researchers have found that psychological distress responses such as anger, anxiety, paranoia, resentment, frustration, and fear follow experiences of perceived discrimination Armstead, Lawler, Gorden, Cross, & Gibbons, 1989; Bullock & Houston, 1987). More recent research has suggested this also operates for LGB individuals. In one study, LGB individuals with implicit anti-gay attitudes had higher levels of depressive and anxious symptomatology and more evidence of emotion regulation problems; the relationship between implicit attitudes and psychological distress was mediated by deficits in emotion regulation (Hatzenbuehler, 2009). When LGB persons experience stigma-related stress, they engage in more emotional suppression and rumination – both forms of emotion dysregulation - and experience higher psychological distress (Hatzenbuehler, Nolen-Hoeksema, & Dovidio, 2009).

Internalized homophobia has been explicitly connected with many of the antecedents and mediating processes for psychological disorder. Higher levels

internalized homophobia in MSM is associated with greater feelings of demoralization and guilt and lower self-esteem (Herek, Cogan, Gillis, & Glunt, 1997; Lima, Lo Presto, Sherman, & Sobelman, 1993; Meyer, 1995; Rowen & Malcolm, 2003). MSM who have higher levels of internalized homophobia also feel more shame and have lower self-esteem; it has been hypothesized that heavy feelings of shame may bring about feelings of worthlessness and poor identity formation in MSM (Allen & Oleson, 1999). Higher internalized homophobia has also been connected to higher levels of distrust of others, loneliness, emotional stability, confusion, and mood disturbances (Nicholson & Long, 1990; Rowen & Malcolm, 2003; Shidlo, 1994). One sociologically-oriented idea posits that men who have sex with men with greater internalized homophobia may be less connected to the gay community and are more likely to perceive their local area as hostile to gay men (Frost & Meyer, 2009; Herek et al., 1997). Their lack of connection to and perceived hostility of the community may result in reduced access to health-related resources, such as safe sex education or low-cost medical services, tailored towards men who have sex with men. Men who have sex with men who are not connected with the gay community may also be more likely to feel lonely, less likely to have social support for dealing with stress, and less likely to be able to compare themselves favorably to successful peers (Crocker & Major, 1989; Lewis, Derlega, Clarke, & Kuang, 2006; Smith & Ingram, 2004).

Although only a small amount of research has specifically examined the connection between mental health and internalized homophobia in Black MSM, it appears that Black MSM experience higher levels of internalized homophobia, and that these relationships also hold for Black MSM (Ross, Rosser, & Neumaier, 2008;

Shoptaw et al., 2009) In Stokes and Peterson's 1998 qualitative examination of homophobia in Black men who have sex with men, participants believed that they had more internalized homophobia than white men because of their unique positioning within black communities. They also freely expressed the belief that their own increased internalization had resulted in low self-esteem and psychological well-being. Szymanski and Gupta (2009) examined both internalized racism and internalized homophobia in a sample of Black LGB persons; both were significant negative predictors of self-esteem, but only internalized homophobia was a significant positive predictor of psychological distress.

The prevalence of these antecedent factors make it unsurprising that internalized homophobia is linked to greater levels of psychological disorder and distress in MSM. Meyer (1995) found that internalized homophobia was the component of minority stress most strongly related to psychological distress in gay men. Other studies with MSM have found that higher level of internalized homophobia - especially the portion of internalization that was directed at oneself, rather than the wider gay community - are positively associated with depression and anxiety (Herek et al., 1997; Herek, 1998; Igartua, Gill, & Montoro, 2003; Lewis, 2003; Shidlo, 1994; Wagner, Brondolo, & Rabkin, 1997). MSM with more internalized homophobia were more likely to meet the DSM criteria for major depressive disorder, adjustment depression, and dysthymia, and were more likely to be in psychiatric care (Rosser, Bockting, Ross, Miner, & Coleman, 2008). A meta-analysis of 31 studies of the connections between internalized homophobia and mental health revealed a small to moderate effect size for the relationship between these two factors; the relationship was stronger for depressive symptomology

(Newcomb & Mustanski, 2010). Men with higher levels of internalized homophobia were also more likely to report suicidal ideation and suicide attempts (Meyer, 1995).

Internalized homophobia has also been associated with risky sexual behavior. This is of particular importance, given that MSM - especially Black MSM - are at heightened risk for HIV infection and STIs. Studies designed to examine these connections find that higher internalized homophobia is connected to more unprotected anal intercourse in MSM (Johnson, Carrico, Chesney, & Morin, 2008; Ross et al., 2008). This connection is often mediated through other factors. Ross et al. (2008) found that internalized homophobia was connected to risky sexual behavior through two main pathways - lack of disclosure about one's serostatus to casual sexual partners and lower levels of self-efficacy about condom use. However, men with more internalized homophobia also exhibited more compulsive sexual behavior (Ross et al., 2008). Men with higher internalized homophobia are also less likely to participate in HIV prevention activities; they are also less likely to report having gotten tested for HIV (Glick & Golden, 2010; Huebner, Davis, Nemeroff, & Aiken, 2006). Johnson and colleagues (2008) found that HIV-positive MSM with higher levels of internalized homophobia were less likely to adhere to their ART regimen. Since men with less than optimal adherence to their ART regimens are more likely to transmit the virus to sexual partners, this could be a contributing factor the epidemic. Internalized homophobia is also positively associated with more sexual partners (Shoptaw et al., 2009). The meta-analysis performed by Newcomb and Mustanski (2010) did uncover a small effect size for the relationship between sexual risk behavior and internalized homophobia; unsurprisingly, however, there

was significant unexplained variance in this relationship, indicating that there are multiple other factors that contribute heavily to risky sexual behavior in MSM.

Internalized homophobia has also been connected with substance use, although findings have been mixed in this area. Some studies have found that substance use is positively associated with internalized homophobia. In a sample of MSM, Cherry (1996) found that internalized homophobia was correlated with alcohol consumption, alcohol-related problems, and drug use during sex. Nicely (2001) also found that MSM who had higher internalized homophobia used alcohol more frequently and were more likely to identify as alcoholic. Farnsworth (2002) found that there was a small but significant relationship between internalized homophobia and tobacco, methamphetamine, ecstasy, and psilocybin use. On the other hand, there have been several studies that have found no relationship between internalized homophobia and drug use. For example, Allen (2002) found no significant relationship between internalized homophobia and alcohol or drug abuse; Ross et al. (2001) observed similar results. In fact, one study of LGB persons recruited at a gay pride festival found a significant *negative* relationship between internalized homophobia and lifetime use of alcohol, marijuana, and cigarettes for women, and no relationship for men (Amadio & Chung, 2004). In a longitudinal examination with bereaved gay men, Hatzenbuehler and colleagues (2008) also found no significant relationship between substance use and internalized homophobia. Similar mixed results have been found in the few studies that have examined predominantly or only Black MSM; one study found a relationship between internalized homophobia and self-reported injection drug use, but no relationship with urinalysis for recent drug use (Shoptaw et al., 2009).

The mixed findings in previous research on the relationship between internalized homophobia and substance use indicate that researchers need to take new approaches to investigating this relationship. It is possible that internalized homophobia simply has no relationship to substance use. However, it is also possible that methodological limitations and omitted variables are part of the reason for the mixed findings in this area. Szymanski et al. (2008) recommend that researchers undertake longitudinal research in young MSM towards the beginning of their coming-out process to investigate whether this has an effect on the relationships. Further, they recommend that researchers investigate mediating and moderating factors in the relationship between internalized homophobia and substance use. It is possible that internalized homophobia is a distal correlate of substance use, temporally far removed from the outcome. Shrout and Bolger (2002) suggest that traditional methods of analysis between a distal predictor and its outcome - with potentially many moderating and/or mediating variables in between them, such as internalized homophobia and substance use, may yield statistically non-significant results when researchers attempt to detect such connections.

Coping, Cognitive Escape, and Substance Use in Men who have Sex with Men

Coping

Internalized homophobia can lead to significant feelings of psychological distress and depressive symptomology in young Black MSM. Depression, then, may be one of the mediating factors in the relationship between internalized homophobia

and substance use; substance use may be a poor coping mechanism used to decrease distress generated from the more distal factor of internalized homophobia. One of the features of the social stress system - of which minority stress is a facet - is that stress is a complex system of processes that work together to determine the intensity of the stress response and health outcome (DeLongis, Folkman, & Lazarus, 1988). One of those processes is coping.

Pearlin and Schooler (1978) defined coping as "the things that people do to avoid being harmed by life-strains" (p. 2). Coping is a natural response to stress. As people deal with life stressors, they also employ techniques to avoid being harmed by those stressors, either by preventing them from happening, avoiding them, or controlling the emotional distress associated with the stressor (Pearlin & Schooler, 1978). As people face life stressors, they actively respond to those stressors through a variety of processes. In their definition of coping, Lazarus and Folkman (1984) emphasized the aspect of cognitive appraisal. When faced with a stressful situation, people first cognitively appraise - or evaluate - the situation in terms of what is at stake and what resources are available to cope with the situation (Folkman & Lazarus, 1980). An appraisal may determine that damage has already occurred; that damage has not yet occurred, but is anticipated; or that there is an imminent challenge with an opportunity for mastery in a specific domain. People then use these cognitive appraisals to determine which coping response to use in a particular situation (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Folkman & Lazarus, 1980). The process is a constant cycle; the coping mechanism selected can lead to new cognitive appraisals or reappraisals. For example, if the initially implemented coping mechanism is not perceived as effective, a person may choose to

use a new type of appraisal. In addition, a situation can proceed from a potentially harmful situation to one in which harm has already occurred, necessitating reappraisal and the selection of a new coping mechanism.

Pearlin and Schooler (1978) oriented their discussion of coping within the social stress paradigm. As discussed earlier, most people experience universal daily hassles in some form. Members of marginalized groups also experience strains and stressors related to their group membership. It stands to reason that people will develop ways in which to deal with the chronic stress induced by their social position and relations with others within the social sphere. Pearlin and Schooler (1978) identified a variety of resources that people use when coping with strains: social resources, psychological resources, and specific coping responses. Social resources are the networks of people that can serve as a support for people experiencing strains, and psychological resources are the personality characteristics that may make one more able to sustain stressors. These are quite different from the coping responses themselves, which are the behaviors, cognitions and perceptions that people perform or use in order to deal with life strains they encounter. According to Pearlin and Schooler (1978), people's social and psychological resources may influence their coping responses, but they are theoretically separate from those two.

Coping responses themselves are divided into three types (Pearlin & Schooler, 1978). The first type seeks to alter or eliminate the stressful situation entirely to make it less threatening, such as seeking advice for an interpersonal problem or negotiating a compromise. This is the most direct form of coping; however, it is also the least often employed form of coping, as it is often difficult to effectively put in place (Pearlin & Schooler, 1978). Using a direct form of coping with stress brought

on by social interaction would involve the participation and acquiescence of a party outside oneself, which could be difficult to secure. Moreover, if members of marginalized groups - such as young Black MSM - are dealing with facets of structural stigma as stressors, these stressors are difficult or impossible to deal with directly. In fact, many young Black MSM may not even realize that structural stigma and discrimination contribute to the social stress that they experience in their lives. Thus, many people practically use a more indirect coping process to deal with social stress. A second, more indirect type of coping changes the meaning of the stressor, "cognitively neutralizing" the threat of the problem - such as selectively ignoring negative aspects of a situation (Pearlin & Schooler, 1978). This coping process is largely tied up with cognitive appraisal, as the way in which one appraises a situation - either as mostly innocuous, highly threatening, or somewhere in between - can determine the effects a stressor has on a particular person (Lazarus & Folkman, 1984). In order to control the meanings of certain situations, people may instead turn their attention to the "silver lining" by selectively ignoring the negatives and focusing on positives of a stressful situation, or they may deliberately adjust their appraisal of the severity of situational stress downward, calling it "no big deal."

The third coping process is more about management of the emotional response to the stressor. Although persons engaging in this type of coping response do not change the stressor or their perception of it, they employ tactics that allow them to cope with the stressor without being overwhelmed by it (Pearlin & Schooler, 1978). People using this coping process often try not to worry about their stress, believing that time may resolve their problems. They may choose to believe that "good people are rewarded with good things," or just accept the hardship as

something that is "meant to be" or something that happens equally to everyone. People will often also distract themselves with other activities that make them feel better or draw their attention away from the negative emotional response. This type of coping has also been labeled as emotion-focused coping, diversionary thinking, and defensive reappraisal (Compas, Malcarne, & Fondacaro, 1988; Curry & Russ, 1985). Lazarus and Folkman (1984) hypothesized that when faced with highly stressful situations, people are more likely to use emotion-focused avoidant coping strategies.

Building upon Pearlin and Schooler's original conception, coping processes have been more broadly categorized as *approach* or *problem-focused* coping and *avoidance* or *emotion-focused* coping, which denote a specific processes' orientation either toward or away from the threat (Roth & Cohen, 1986). Approach coping techniques are oriented "towards" a threat; an approach technique is characterized by taking action to solve or eliminate a potentially stressful situation. In contrast, an avoidance coping technique is characterized by turning "away" from a threat, by cognitive suppressing or attempting to forget about a stressful situation completely (Roth & Cohen, 1986). Avoidant coping is associated with Pearlin and Schooler's third type of coping response - that of managing the emotional distress elicited by a stressful situation. Again, which type of coping response is used is determined in part by cognitive appraisal. People tend to use approach coping when they feel that something constructive can be done to alleviate a problem, whereas they tend to use avoidant coping when they feel that the stressor is a hardship that must be endured (Folkman & Lazarus, 1980).

Given that internalized homophobia has been consistently associated with feelings of psychological distress and elevated levels of anxiety and depression, it makes sense that young Black MSM who experience it would employ a variety of resources and mechanisms to avoid the harm that can come from this form of minority stress. However, when faced with stigma-related stressors, many of those in stigmatized groups often turn to emotion-focused avoidant coping behaviors (Miller & Kaiser, 2001). Black MSM may also have fewer coping resources than their white counterparts (Meyer, Schwartz, & Frost, 2008). Given that internalized stigma is a powerful form of social stress that often has no immediate solution and often imposes severe chronic strains on young Black MSM, it is quite plausible that young Black MSM turn to avoidant coping mechanisms more often to deal with persistent internalized stigma. Indeed, a focus on avoidant coping mechanisms may be an explanatory factor in the relationship between internalized homophobia and substance use - in that substance use may be used as an avoidant coping mechanism to deal with the stress induced by internalized stigma.

Cognitive escape and substance use as an avoidant coping mechanism

Some of the earliest research on coping revealed that people often use substances, particularly alcohol, to as an avoidant coping mechanism to manage the emotional response connected to stress. Early research on motivation for drinking consistently reveals that a substantial proportion of drinkers drink in order to regulate negative emotions, and that people who use emotional-avoidant styles of coping are more likely to abuse alcohol (Cooper, Russell, & George, 1988; Pearlin & Radabaugh, 1976). Cooper et al. (1988) showed empirical support for a model of alcohol abuse in which emotion-focused avoidant coping was associated with higher

levels of problem drinking. The effect was elevated in people who expected that alcohol would make them feel better about stressful situations. Further studies provided more evidence for this relationship (Cooper, Russell, Skinner, Frone, & Mudar, 1992; Fromme & Rivet, 1994; Holahan, Moos, Holahan, Cronkite, & Randall, 2001; Laurent, Catanzaro, & Callan, 1997). Later research showed a similar relationship with other illicit substances. People who use more illicit substances tend to rely on more avoidant styles of coping to deal with stress; this relationship seems particularly pronounced for adolescents and young adults (Nyamathi, Stein, & Brecht, 1995; Wagner, Myers, & McIninch, 1999). Thus, there is ample evidence that alcohol and illicit substances are often used as an emotion-focused, avoidant coping mechanism.

McKirnan, Ostrow, & Hope (1996) put forth a model of sexual risk behavior, including substance use, that posits substance use during sexual situations as an avoidant coping mechanism designed to manage emotional responses to stress. McKirnan et al. hypothesized that MSM use substances strategically as a sort of "time out" from stressors that are common to their sexual identities or behaviors, such as stigma. Drawing from the extant literature on the relationship between avoidant coping and alcohol use, they point out that people often use drugs to become less mindful of the sources of their stressors. As with earlier research, this relationship is most likely stronger for MSM who actually expect that substances will ease their sexual relationships and behaviors. The stigma of sexual identity introduces another aspect, though, that may be especially salient for MSM with high levels of internalized homophobia. In men with high levels of internalized homophobia, sexual norms for the gay community may be more difficult to follow.

Substance use in this case acts as "sexual releaser" that makes adherence to these sexual norms less effortful (McKirnan et al., 1996). For MSM, substance use during sexual encounters helps them to induce a state of "cognitive release," that eases the anxiety often brought on by the stigmatized nature of their sexual identities and lives (p. 658). Over time, young MSM's sexuality itself may become associated with the anxiety and subsequent cognitive release facilitated by substance use (McKirnan et al., 1996).

McKirnan and colleagues' original hypothesis was related to the idea that thinking about HIV and AIDS - including performing the behaviors necessary to protect oneself from the disease - is inherently aversive, and that these are the aversive thoughts that MSM are seeking cognitive escape from. Since seeking same-sex sexual partners is very likely to make feelings of internalized homophobia salient and accessible to young Black MSM, this hypothesis of cognitive escape is also likely to apply to substance use within a sexual situation. There is evidence that internalized homophobia is associated with negative mood states and more avoidant styles of coping (Nicholson & Long, 1990) and that it is inversely related to proactive, approach-style coping (Wagner et al., 1997). Further research has found that emotion-focused coping strategies are associated with substance use and are positively related to polydrug use in MSM (Barrett et al., 1995). In an ethnically diverse sample of MSM, Alvy et al. (2011) observed that the relationship between depression and sexual risk behavior was mediated by cognitive escape. McKirnan and colleagues' original hypothesis of cognitive escape being targeted at avoiding thoughts about HIV and AIDS risk may actually be closely intertwined with cognitively escaping internalized homophobia. Herek (1998) found that MSM with

higher internalized homophobia also had higher symptoms of avoidance related to the AIDS epidemic. For many young Black MSM, perceptions about HIV and AIDS risk may be tied up with their perceptions of internalized homophobia.

The relationship between avoidant coping and substance use is dependent upon expectancies of what alcohol and substances will do for an individual within a stressful situation. In other words, in order for a person to use drugs as a coping mechanism, they must expect that the drug will assuage their negative affect (Cooper et al., 1988, 1992). Research has demonstrated that MSM do, in fact, have these expectancies; those who used drugs and alcohol in conjunction with sexual episodes expressed a belief that their drug use would relieve anxiety, allow them to escape awareness of HIV risk associated with their same-sex behaviors, and facilitate sex (McKirnan et al., 2001). Bars, clubs, bathhouses and sex parties that cater to and serve as social hubs for MSM are often places where alcohol and illicit drugs are abundant, making it difficult for MSM to separate their sexual and social lives from substance use (Purcell, Parsons, Halkitis, Mizuno, & Woods, 2001; Stall & Purcell, 2000). Recent studies demonstrate that many MSM use substances as a part of their regular social interactions with other MSM and to feel part of the gay community (Halkitis, Parsons, et al., 2003; Semple, Patterson, & Grant, 2002). McKirnan and Peterson also suggest that social learning may influence MSM to culturally link substance use with sexuality. Being "out" and in the gay community may make MSM feel pressured into an environment where substance use is required to integrate into the social milieu; many MSM, then, say that they use substances to avoid social as well as inner psychological conflict (Halkitis et al., 2005; Halkitis, Parsons, et al., 2003; Mckirnan & Peterson, 1989).

A possible outcome of this cognitive escape is that short-term demands and external pressures drive MSM's behavior far more than long-term planning or goals. This leads MSM to be more open to participating in sexual risk behavior, particularly because substance use - especially substance use just before, or during, sexual episodes – lessens sexual inhibitions and leaves MSM less able to negotiate condom use and other safe sexual behaviors (Mimiaga et al., 2010). A study of Latino MSM showed that internalized homophobia was positively related to unprotected sex specifically under the influence of drugs, indicating that MSM with higher internalized homophobia may be using drugs during sexual situations in order to lower the inhibitions surrounding their same-sex sexual behavior (Nakamura & Zea, 2010).

Resilience

Definition and original conceptions of resilience

The vast majority of the empirical work on the lives of MSM, and especially Black MSM has focused on negative health behaviors and consequences in their lives such as HIV risk, drug abuse, depression and psychological distress, and discrimination and prejudice. Even much of the literature on coping with these negative health events has focused on the deleterious ways in which MSM cope. By contrast, there have been relatively few studies that focus on the factors that make MSM resilient against stressors and risks in their lives. In order to formulate effective interventions to help MSM, public health psychologists should focus on the processes that help MSM resist negative influences on their health. If we characterize internalized homophobia as a type of stressor with which Black MSM

have to cope, then resilience could be considered an important influence on mechanisms used to cope with internalized homophobia.

Within the literature, resilience has been a difficult concept to define precisely; there are several different frameworks and models for the concept (Davydov, Stewart, Ritchie, & Chaudieu, 2010; Luthar et al., 2000). A generally accepted definition is that resilience is "a dynamic process encompassing positive adaptation within the context of significant adversity" (Luthar et al., 2000, p. 543). Generally speaking, resilience is conceptualized as a process through which people successfully cope with stressful or traumatic experiences and avoid negative outcomes associated with exposure to risk (Fergus & Zimmerman, 2005). It is important to note that by definition, resilience refers to people's variations in their responses to risk factors. It does not refer to simply being exposed to less risk (Rutter, 1987). The entire concept of resilience rests on the idea that while an entire population of people may be exposed to many of the same stressors, some of them will have assets and resources that allow them to resist the negative consequences of those stressors. Resilience frameworks posit that although certain people may be unable to avoid risk - and indeed, may be exposed to great deals of it - these individuals are able to overcome that risk through personal qualities (Herrick, Stall, Goldhammer, et al., 2013).

The study of resilience began in child and adolescent development literature; many early research studies of resilience focused on how children and adolescents bounce back from early childhood traumas, such as parental mental illness, childhood sexual and physical abuse and exposure to violence, to become healthy adults (for review, see (Luthar et al., 2000). Researchers initially concentrated on

traits and personality characteristics of the children themselves, attempting to characterize resilient children and distinguish them from non-resilient children. However, as the study of resilience evolved over time, researchers begin to acknowledge that resilience processes may come from factors outside of the children. As such, researchers began to identify three areas from which resilience is derived: attributes of people themselves; aspects of people's families, and characteristics of people's wider social environments (Luthar et al., 2000). Fergus and Zimmerman (2005) split these into assets and resources - assets being the positive internal characteristics of people that make them resilient, and resources being those positive external factors that help individuals contend with stress.

A common discrepancy in the literature on resilience is whether resilience is a set of traits or a process. Much of the earliest work on resilience within children and adolescents investigated personality characteristics of children, characterizing some as "resilient children" with special traits that made them more resistant to negative outcomes. The modern concept of resilience, however, is that it is a dynamic *process* that cannot be simplified to individual traits (Luthar et al., 2000; Rutter, 2007). Resilience is about what people *do* in response to stressful conditions, not about innate traits that they have. In that sense, it cannot be directly measured. However, in a modern conceptualization of the construct, there are interactive mediating mechanisms that might give rise to resilience, such as qualities of personal agency, coping strategies, or social and family support (Rutter, 2007; Tusaie & Dyer, 2004) (Rutter, 2007; Tusaie & Dyer, 2004). Within this framework, people with certain sets of personal qualities may be more likely to engage in effective processes of resilience (Connor & Davidson, 2003). Successful resilience is generally

conceptualized to involve personal adaptability to change; a realistic sense of personal control over circumstances, with a recognition of the limits of one's control; the ability to view stress as a challenge or opportunity for growth; optimism; and a secure attachment to close others, with the ability to engage a support network when needed (Connor & Davidson, 2003; Kobasa, 1979; Rutter, 1985).

Individual characteristics that promote resilience

Given that resilience is conceived of as a process that is predicted by individual characteristics, researchers have been interested in the personality traits that may predispose people to engage in resilience processes. Frederickson et al. (Fredrickson, Tugade, Waugh, & Larkin, 2003) found that individuals with high levels of trait resilience recovered from stressful experiences more quickly than low-resilient peers. This may be because resilient individuals use the more effective types of coping - both adjusting the stressful situation itself and/or reappraising the stressful situation in a positive light (Billings, Folkman, Acree, & Moskowitz, 2000; Folkman & Moskowitz, 2000).

Kobasa (Kobasa, 1979) studied two groups of executives, one who suffered high levels of stress without falling ill, and another who became sick after experiencing high levels of stress. Theorizing that resilience processes allowed one group of the executives to resist the illness associated with stress, Kobasa put together a set of three traits she called "hardiness" - traits that she believed allowed people to engage in resilience processes to protect themselves from illness. One was that a clear sense of one's capabilities and goals was associated with avoiding illness during a stressful event. Hardy individuals were more *committed* to their sense of

self and to their personal values. A second important trait was a tendency towards more active engagement or involvement with the environment. This trait can be linked back to the idea of approach coping, as conceptualized by Lazarus and Folkman (1984). Hardy people do not passively acquiesce to stressful situations; they use their own assets and resources to cope with the situation, much how the adaptive mechanism of approach coping involves taking a problem-centered approach to stressful situations. In this sense, the potentially stressful situation is seen as a *challenge* to be surmounted rather than a terrible event that one must passively accept. The third trait explored was internal locus of control - or a sense that one has a reasonable amount of *control* over one's life circumstances. Hardy individuals feel that they can help determine the consequences that arise from certain situations, and that these consequences are based upon their own reactions to stressful situations. Pearlin and Schooler (1978) also considered this to be an important component of a coping framework, and constructed a scale for it to measure psychological resources in their early study of coping. They defined mastery as "the extent to which one regards one's life-chances as being under one's own control" instead of being controlled by some outside forces (p. 5). Pearlin and Schooler's 1978 study did find that mastery, as they measured it, was a mediator in the relationship between life strains and depression.

Later studies have uncovered empirical support for Kobasa's concept of hardiness as involving commitment, challenge, and control. Kobasa's original 1979 study found that executives in high-stress positions who had these three traits were less likely to become ill than peer executives who did not have those traits. These findings were later replicated with middle managers and in a longitudinal design,

showing that hardiness can be protective against future illness as well (Kobasa, Maddi, & Courington, 1981; Kobasa, Maddi, & Kahn, 1982). This relationship is also stable with mental health characteristics; people with higher levels of these traits of hardiness have lower levels of mental health problems in the face of both general life stress and acute stressful situations, such as military training, adjustment to college, and high stress workplaces (Florian, Mikulincer, & Taubman, 1995; Ganellen & Blaney, 1984; Mathis & Lecci, 1999; Simoni & Paterson, 1997; Taylor, Pietrobon, Taverniers, Leon, & Fern, 2013). Other studies have found that individuals with personality characteristics consistent with resilience were less likely to be depressed or anxious (Min et al., 2013). Wiebe and McCallum (1986) found that hardiness was related to fewer symptoms of poor physical health and less severity of these symptoms; in this case, hardiness was indirectly related to these variables through health practices. This shows support for the idea that it is not these traits in and of themselves, but rather the processes that people with these traits are more likely to activate in reaction to stress.

Very limited research has been done with LGB individuals at all on whether the traits of hardiness are related to health outcomes and resilience processes. However, what little has been done seems to support the connection between hardiness and mastery and successful coping with life stressors, including stress related to minority status. In a study of LGB seniors, Friend (Friend, 1991) found that part of their successful adjustment to aging involved the ability to dispute homophobic messages they encountered during their lives, which corresponds to the challenge component of hardiness. Support has also been found for Pearlin and Schooler's original conception of mastery and its relationship to health outcomes.

Variations in well-being within LGB emerging adults are explained by differences in personal mastery - LGB emerging adults with lower levels of personal mastery also had higher depressive symptomology and lower self-esteem (Spencer & Patrick, 2009).

Only a few studies have examined psychological hardiness and mastery over coping in Black men or MSM. In a study of 502 African American men, Myers and colleagues found that psychological hardiness was not associated with risky sexual behavior for either heterosexual Black men or gay and bisexual Black men. However, a few studies in African American men have found associations between mastery and depressive symptoms; Black men with greater mastery over coping, on average, have fewer depressive symptoms (Mizell, 1999; Watkins, Hudson, Caldwell, Siefert, & Jackson, 2011).

Social support and resilience

Just as personality traits such as hardiness and mastery may serve as the person-level assets that aid people in activating resilience processes, social support is an important external resource that young Black MSM may utilize in order to cope with the negative consequences of stigma and be resilient in the face of stress. Luthar et al.'s (2000) critical evaluation of the resilience framework acknowledged that family and social environmental resources are important components allowing persons to engage resilience processes in reaction to stress. Fergus and Zimmerman (2005), too, acknowledged the importance of social support as a contextual factor in the framework of resilience. Most frameworks of resilience have accepted that people often access their social networks to support them in the face of stressful situations. They may rely on social others to help them solve problems or obtain

other resources or assets to employ in direct problem-focused coping mechanisms. People might also rely on social support networks to aid in more positive forms emotion-focused coping - speaking with a friend to vent anger or frustration, for example, or using social events with friends to distract oneself from negative affect. There is an established body of research suggesting that social support plays a large role in successfully coping with stress and that social support supports resilience processes (Pinkerton & Dolan, 2007). For that reason, resilient individuals are typically identified as having a close bond with an emotionally stable other in their family who can support them and attend to their needs (Werner, 1995). In addition, resilient people usually have strong community ties that provide them with external emotional support (Werner, 1993, 1995).

More work has been done on social support than most of the other characteristics that contribute to resilience; this work began with an examination of family support, and particularly parental support (Thoits, 1995). Parental support seems to be a key element of well-being and resilience in young people, including adolescents and young adults. Parental support is associated with better psychological well-being and lower levels of drug use in adolescents (Helsen, Vollebergh, & Meeus, 2000; Wills, Resko, Ainette, & Mendoza, 2004). In more recent studies, parental support has been found to be quite essential to the health of young MSM. Young MSM who were more accepted by their families have higher self-esteem, better overall health, fewer depressive symptoms, less substance abuse and less suicidal ideation (Mustanski, Newcomb, & Garofalo, 2011; Ryan, Russell, Huebner, Diaz, & Sanchez, 2010). Conversely, young MSM who had experienced family rejection were more depressed and more likely to have attempted suicide,

used illegal drugs, and have unprotected sex (Rothman, Sullivan, Keyes, & Boehmer, 2012; Ryan, Huebner, Diaz, & Sanchez, 2009). These relationships hold in research dome with young MSM entering young adulthood (Needham & Austin, 2010). This suggests that parental support remains an important facet of resilience even for young MSM entering emerging adulthood; parental relationships at this time can help set the stage for the development of healthy peer relationships and sexual identity formation at this time (Collins & Laursen, 2004).

It is an unfortunate truth, then, that young MSM experience lower levels of family connectedness and support than their heterosexual counterparts. An analysis with a nationally representative sample of adolescents discovered that sexual minority adolescents have more problems with their parents (Ueno, 2005). Young MSM report less parental support than heterosexual young men (Needham & Austin, 2010). Race also plays a role in this relationship; racial and ethnic minority MSM are less likely to report family acceptance than their white peers (Mustanski et al., 2011).

Studies have also found that social support from non-familial peers is important for resisting stress and illness. In studies of Vietnam veterans, researchers found that veterans with lower social support were more likely to suffer from post-traumatic stress disorder than veterans with high support (King, King, Fairbank, Keane, & Adams, 1998). People with serious chronic illnesses like cancer or cardiovascular disease are less likely to also have major depressive disorder if they have higher levels of social support (Holahan, Moos, Holahan, & Brennan, 1995; Manne, Pape, Taylor, & Dougherty, 1999). Conversely, other studies have shown that a *lack* of social support is related to worse progression in chronic illness

(Rozanski, Blumenthal, & Kaplan, 1999). Studies specifically with young MSM have yielded similar results. Peer support is directly related to psychological well-being in young MSM (Detrie & Lease, 2007). However, it also serves as a moderating factor, attenuating the relationship between stressful exposures and negative health outcomes. Peer support buffers the relationship between weaker sexual identity formation and psychological distress (Wright & Perry, 2006) and between cigarette smoking and psychological distress (Rosario, Schrimshaw, & Hunter, 2011) in young MSM. Men who have sex with men with high levels of perceived social support tend to describe themselves in more positive and less negative terms, indicating that this could be a potential buffer against internalized stigma and distress (Galvan, Davis, Banks, & Bing, 2008). An early study with Black MSM showed that higher perceived social support was related to fewer perceived daily hassles and more optimism (Peterson, Folkman, & Bakeman, 1996). It appears that perception of social support is more important than actual social support; individuals need only *feel* supported in order to reap the mental health benefits (McDowell & Serovich, 2007). However, as with parental support, young MSM may both experience and perceive lower levels of social support from peers. Young MSM report feeling less socially integrated and supported than heterosexual young adults (Hsieh, 2014).

Using resilience in studies with young Black MSM

Surprisingly, resilience has been somewhat neglected in the literature as a potential influence on mental health outcomes in MSM at risk for HIV. As mentioned, much of the literature on substance use, mental health, and HIV risk factors in MSM has been problem-focused. Researchers have concentrated their attention on identifying the negative risk factors and behaviors that influence poor

health outcomes. Not nearly as much attention has been focused on identifying positive, protective factors that may buffer the relationship between psychological risk factors and risky behavior. This is particularly surprising because on the whole, most young MSM are resilient (Herrick, Stall, Goldhammer, et al., 2013). Although MSM may suffer from higher levels of psychological distress than their heterosexual peers, most young MSM do not have any psychiatric illnesses. Young MSM have also managed to form and integrate themselves into tightly-knit gay communities even where they are few in number or where there is hostility against gay people - albeit with varying levels of success. An ethnically diverse sample of MSM showed that most of them resolved their internalized homophobia over time on their own, even when they were unable to access positive images of other gay men or formally structured interventions (Herrick, Stall, Chmiel, et al., 2013). Herrick and colleagues (2013) also point out that most young MSM manage to avoid engaging in high-risk sexual behaviors. In addition, despite the fact that many of them are dealing with layers of psychosocial health problems - structural and personally experienced stigma, elevated risk of psychological distress, and lower levels of social support when compared to heterosexual peers - most young MSM do not have HIV (Centers for Disease Control and Prevention, 2008a, 2010; Hall et al., 2008). This is also true for young Black MSM - the majority of young Black MSM do not have HIV, and research shows that they actually might engage in less substance use and less risky sexual behavior than their white peers (Millett et al., 2007).

Thus, public health as a field would benefit from a deeper examination of resilience as a potential factor that may induce risk prevention strategies in men who have sex with men, particularly in the context of behavioral interventions for this

population (Herrick, Stall, Goldhammer, et al., 2013). However, to date, the examination of this concept – and examination of any other protective factors - in the literature has been sparse. Most research within psychology and public health has taken a deficit-based approach, arguing that adverse health outcomes are precipitated by negative risk factors and that the key to diminishing these health outcomes is to eliminate risk factors. This perspective is, of course, important - the many years of research on risk factors has revealed that young MSM, and young Black MSM especially, have been systematically disadvantaged by society and exposed to a whole host of negative risk factors that have led to disparities between their health and the health of their straight, white counterparts. This research has also led to effective social marketing campaigns that have been employed at both the community level and the national level in an effort to reduce the spread of HIV, substance use, and other adverse health outcomes in MSM. However, for interventions to have the greatest impact on young Black MSM, they will also need to promote resilience. As already mentioned, young Black MSM have clearly found ways to protect themselves from health risk. Tapping into the strengths that young MSM have themselves already developed can help community organizations and researchers create more effective interventions by capitalizing on assets and resources that young MSM already have.

Specifically, more research needs to be focused on investigating resilience in young Black MSM. With a deficit-based approach, it is easy to assume that the additive or interactive effect of racial and sexual discrimination would result in fewer assets and resources leading to resilience processes in young Black MSM. As mentioned earlier, some studies have found that LGB people of color do have less

social support and feel less connected to gay communities than white MSM. However, other research has shown that young Black MSM can hold the seemingly "conflicting" identities successfully - and that their identities may not be perceived as conflicted at all, but unified into a coherent sense of self (Meyer, 2010; Singer, 2004). Some empirical research has shown that young Black MSM actually have more integrated racial and sexual selves than their white counterparts (Stirratt, Meyer, Ouellette, & Gara, 2008). This study, as well as others, also suggests that young Black MSM may use their experiences of identity formation and stigma resistance as young Black men to aid in those similar processes when they begin to form their identities and come out as gay or bisexual (Meyer, 2010; Stirratt et al., 2008). Thus, it is important for researchers to consider the unique processes of resilience and how they interact with health risks in the lives of young Black MSM.

CHAPTER III: METHODS

In the current chapter, I provide an overview of the study rationale, hypotheses, research design, sample, and procedures used for this dissertation. I begin this chapter by elaborating the study rationale and listing the hypotheses for the study. I continue by describing the parent study from which this dissertation was derived, the Brothers Connect Study (BCS). BCS was conducted at Columbia University by the Society, Psychology, and Health Research (SPHeRe) Research Lab, led by Patrick A. Wilson. Next, details on the specific approach and methods used for the dissertation work, including the relevant measures used from the parent study, are provided. In the last section of the chapter, the specific quantitative analyses used for this dissertation are described in detail.

Study Rationale

Specific Aims

The aims of this proposed dissertation are to explore potential relationships between internalized homophobia, psychological distress, substance use, and resilience. The specific aims are

1. To determine whether there is a relationship between internalized homophobia and substance use before or during the most recent sexual encounter;
2. To determine whether psychological distress acts as a mediator in the relationship between internalized homophobia and substance use before or during the most recent sexual encounter;

3. To construct a model of resilience using commonly postulated indicators of this hypothesized latent variable; and
4. To examine whether resilience acts as a moderator in the relationship between internalized homophobia and substance use before or during the most recent sexual encounter.

The proposed dissertation intends to examine these relationships using both cross-sectional and longitudinal analysis. Most previous research in this area has been doing using cross-sectional analysis only. Longitudinal analysis allows researchers to look at situational and contextual factors influencing certain behaviors. In this case, the proposed research can examine the weekly contextual influences of substance use, as well as observe fluctuations in substance use and psychological distress that may be tied to different levels or profiles of internalized homophobia.

Hypotheses

I hypothesize

1. Internalized homophobia and substance use before or during the most recent sexual encounter have a positive linear association with one another – MSM with higher baseline levels of internalized homophobia will have higher average odds of substance use before or during a sexual encounter.
2. Psychological distress acts as a mediator in the relationship between internalized homophobia and substance use before or during the most recent sexual encounter. MSM with higher levels of internalized homophobia will also have higher average weekly psychological distress, and this higher distress will in turn be related to higher odds of substance use before or during a sexual encounter.

3. Hardiness, mastery, paternal support, maternal support, and peer social support are all indicators that contribute significantly to the latent variable of resilience.
4. Resilience is a moderator in the relationship between internalized homophobia and substance use before or during a sexual encounter. MSM with higher levels of internalized homophobia will be less susceptible to substance use before or during a sexual encounter if they also have high levels of resilience.

Brothers Connect Study Summary

To test the study hypotheses and answer the research questions of interest, I have conducted a secondary data analysis of a sample of 228 young Black men who have sex with men (MSM) that was surveyed between September 2010 and December 2011. The overall aims of the parent study were to examine proximal and distal risk factors associated with HIV risk behaviors, specifically unprotected anal intercourse (UAI), among young Black MSM.

The broad goal of BCS was to examine how both distal and proximal contextual factors influence health risk behaviors among young Black MSM, focusing specifically on sexual risk behavior. The study has four main aims: 1) to describe proximal contextual risk factors; 2) to describe distal contextual risk factors; 3) to determine the facilitators and barriers to HIV testing, engagement in HIV prevention, and engagement in HIV care among young Black MSM; and 4) to explore the roles of social support and self-efficacy in understanding resilience among young Black MSM. This dissertation focuses on topics related to aims 1 and 4.

BCS involved two quantitative components - a cross-sectional component and

a longitudinal component. The cross-sectional survey was a self-administered using a web-based assessment. The survey was used to identify demographic information and distal risk factors. The cross-sectional survey utilized established, reliable scales to measure these risk factors, including social support, resilience, mastery, parental substance use, exposure to trauma and others.

The second component of BCS was a self-administered 8-week structured sex diary. A selected subset of participants completed the structured sex diary each week for 8 weeks, which queried participants about behaviors and experiences in the week prior. Participants were asked about their sexual behavior, sexual partner characteristics, substance use behaviors, psychological distress, and general mood in the week prior.

This study was undertaken with grant support from the Centers for Disease Control and Prevention grant U01 P000700. The research protocol was reviewed, approved, and overseen by the Columbia University Medical Center Institutional Review Board (IRB), protocol number IRB-AAAD8134. The researchers received a federal Certificate of Confidentiality to protect the confidentiality of participants in the study.

Brothers Connect Study Procedures

Recruitment

BCS used a community-based nonprobability sample of young Black MSM living in New York City. Participants were recruited from venues that catered to, or are frequented by, young Black MSM. Banner advertisements were placed on websites targeted at this population, such as VillageVoice.com and

BlackGayChat.com, as well as social media and advertising websites for a more general audience, such as Facebook.com and Craigslist.com. Flyers were posted at gay bars, gay clubs, local college campuses, gyms, cafés, and other community locations frequented by young men. Study recruiters frequented these locations and passed out business cards and palm cards to potential participants in the study. Participants were also recruited directly through partnerships with several community-based organizations (CBOs) such as the New York City LGBT Community Center and the Callen Lorde Community Health Center. A form of snowball sampling was also used; participants were encouraged to refer their eligible friends to the study, and could receive up to two $10 Starbucks gift cards for referring up to 2 friends who ultimately participated in the study.

Overall, 10% of the participants were recruited from clubs and bars; 15% were recruited via business cards and flyers hung or passed out in general locations; 18% were recruited through partnerships with CBOs; 21% were recruited from online ads; and 36% were recruited through snowball sampling.

Study Eligibility Criteria

Participants had to be between the ages of 18 and 30 and had to identify as Black or African American, Black Latino/Hispanic, Afro-Caribbean/West Indian or mixed-race Black. Participants also had to be sexually active, which was defined in the study protocol as having had oral or anal intercourse with another man in the two months prior to the cross-sectional study. Participants also had to reside with the New York City tri-state area and be able to reach one of the two study sites, located in Washington Heights in upper Manhattan and in the Chelsea neighborhood of lower Manhattan.

A subset of 154 men was selected to participate in the structured sex diary. Participants who reported two or more sexual partners in the last two months were invited to participate in the structured sex diary. Participants who participated in the 8-week structured sex diary additionally had to have access to the Internet and a personal email account.

Cross-Sectional Survey

Participants were asked to come to one of the two study sites (of their choice) to complete the cross-sectional part of the study. Upon arriving, participants consulted with one of the study employees, who gave participants information about the study and informed them of their rights, including the ability to exit the study at any time and their right to the confidentiality of their information. Participants were also informed about the study's federal Certificate of Confidentiality, which protected their information from forced government investigation. Participants then signed a form indicating that they had provided informed consent.

After providing consent, each participant was taken to a private office with a laptop computer. They were shown how to access the study website, on which they completed an assessment using a computer-assisted self-interviewing (CASI) program. The cross-sectional survey took approximately 60 minute to complete. Participants were compensated $30 for completing the cross-sectional survey and received a $5 MetroCard for round-trip travel to the office.

Structured Sex Diary

After completing the cross-sectional survey, a study employee reviewed answers to select sexual behavior questions to find out if the participant was eligible for the structured sex diary component of the study. Participants were informed that

they were to complete the structured sex diary once every 7 days for 8 weeks. If they agreed, they were shown how to complete the sex diary using a laptop computer in the study offices, then allowed to complete the first week of the sex diary in private. The structured sex diary, which also used a CASI modality, took approximately 15 minutes to complete. Participants who completed the structured sex diary were compensated an additional $10 before they left the study site.

On each subsequent week, participants completed the structured sex diary. Participants were to complete their second week exactly 7 days after the first, and then each subsequent week on the same day (e.g., if they completed week 1 on a Wednesday, they would also complete weeks 2-8 on the next seven Wednesdays). Participants were sent automated messages to their personal email accounts to remind them to complete the sex diary each week. Of the 154 participants who were recruited into the sex diary component, 75% (n = 115) completed all 8 weeks of the diary component.

Participants were compensated $10 for each week they completed in the structured sex diary. They were also compensated with a $20 bonus if they completed all 8 weeks of the survey. Therefore, participants could make between $10 and $100 for completing parts of the sex diary.

Dissertation Approach and Methods

In this dissertation, I investigate the relationships between psychological distress, stigma in the form of internalized homophobia, and substance use using both cross-sectional and longitudinal diary data. I also explore personality characteristics and personal resources - such as hardiness, mastery, and social support - that may contribute to resilience processes in young Black MSM. Finally, I

examine the potential effect of these resilience factors as a moderator of the relationship between stigma and distress, both individually and in combination.

Longitudinal Diary Methods

This dissertation primarily uses data from a structured diary to explore both between-persons associations between variables and within-person change on a weekly level. A diary study, which employs intensive longitudinal methods and is strongly tied to the ecological momentary assessment (EMA) approach, is a repeated measures design that requires participants to repeatedly self-report ongoing experiences. Diaries are typically completed from the comfort of participants' homes, or wherever they feel most comfortable completing the diary. Diary studies allow researchers to investigate social and psychological processes within every day situations, "capturing life as it is lived," as it were (Bolger, Davis, & Rafaeli, 2003). Indeed, some of the earliest diary studies explored how people used their time and why they were motivated to do so (Bolger & Laurenceau, 2013). Diary methods were pioneered in the social psychological sciences - primarily within social and personality psychology, and recently within health psychology - as a method for studying frequently-occurring, context-specific human behavior that was best explored in using a situational framework. Some of that early work was the study of emotional processes in the daily lives of adolescents (Csikszentmihalyi, Larson, & Prescott, 1977) and the relationships between physical attraction and sex differences in daily social interactions among adults (Reis, Nezlak, & Wheeler, 1980; Wheeler & Nezlak, 1977). Later work began to examine patterns of mood across situations in daily life (Diener & Emmons, 1985; Diener & Larsen, 1984).

Cross-sectional studies generally require participants to remember behaviors

over long periods of time. Many cross-sectional studies examining substance use behaviors in MSM require participants to retrospect on their behavior from the past 6 or more months. There is evidence that long-term retrospection can bias participants' estimates of the frequency of their behavior such that they either overestimate and underestimate (Schroder, Carey, & Vanable, 2003). Participants tend to remember frequent events based on how they feel in a particular moment; their memory of long-ago events can be influenced by the valence of those events and how closely that valence matches how they feel in the moment in which they are completing a cross-sectional measure. For example, participants who are in a negative affective state at the time of a survey may be less able to recall a positive sexual or substance use experience they have had, especially if asked to recall one from more than a few weeks prior (Barsky, 2002; Bower, 1981; Schulkind & Woldorf, 2005; Kensinger, 2009). Participants may also use recall strategies that make longer-term recall challenging, even if they work for short-term recall (Catania, Gibson, Chitwood, & Coates, 1990). For example, a participant may use the vividness of a particular experience or situation in an attempt to recall how recently the experience occurred. However, the availability heuristics suggests people tend to remember very vivid experiences as having occurred more recently and than they actually have (Catania et al., 1990).

Longitudinal diary studies allow researchers to obtain more reliable between-person information. Previous research has found evidence that frequent behaviors, such as sexual behavior and recreational substance use, are measured more accurately using repeated diary methods. Downey et al. (1995) found that the accuracy of three-month retrospective reports of sexual behavior in MSM was quite low when compared to daily diary measures. While participants could remember in

which risk behaviors they had participated, they could not accurately recall the frequency of those behaviors. They were more likely to underestimate the frequency of high HIV risk behaviors (Downey et al., 1995). These results have been supported by more recent investigations specifically into the reporting behaviors of MSM (Horvath, Beadnell, & Bowen, 2007). Diary methods also allow researchers to aggregate diary-reported responses to investigate between-person differences, rather than relying on participants to do this accurately themselves. There is evidence that subjective aggregates of participant behavior over time, generated by the participants themselves, are less accurate than empirical aggregates of repeatedly-reported events generated by researchers using statistical methods (Shiffman et al., 1997). Past research has also found that participants also prefer diary studies to cross-sectional measures. For example, McLaws et al. (1990) found that 86% of their sample of MSM preferred the diary method to a standard cross-sectional questionnaire. Data from participants in exit interviews conducted as a part of the present study support these findings.

Diary methods also allow investigators to detect within-person differences in important psychological and health processes, and the psychosocial influences of these temporal processes. Investigators can examine how behaviors vary with potential antecedents of behaviors, and may make limited inferences about the temporal sequencing of such events. Researchers can also use diary methods to look at specifically certain variables within sexual situations or encounters and evaluate their impact on behavior, rather than determining only person-level traits' influences on behavior.

There are limitations to diary methods, however. Chief among these is the higher likelihood of some missing data due to attrition over the weeks of the study,

although past studies have show that daily diary studies are feasible in samples of MSM for up to six months and that even substance-using populations can show good to excellent response rates (Epstein et al., 2009; Glick, Winer, & Golden, 2012; Hooper, Rosser, Horvath, Oakes, & Danilenko, 2008). Diary research methods also place a heavier burden on participants than cross-sectional studies; participants are required to complete the same survey repeatedly, often answering the same questions many times. This may especially impact participants in studies that ask about sensitive or illicit topics, such as sexual behavior and substance use. There is also evidence for reactivity in diary studies - that is, that the process of recording one's daily or weekly activities may actually change behavior. However, research into motivational interviewing and diary methods has shown that participants need to have a motivation to change their behavior in order to change, and that simple awareness often does not affect change (Hettema, Steele, & Miller, 2005; Webb & Sheeran, 2006). Glick et al. (2012) found that despite evidence for reactivity in diary studies, the method remains a valid means of collecting information and does not significantly bias results.

Diary methods have been used in substance use research for some time. Substance use is itself an episodic, situationally-influenced behavior, and social psychologists have long desired to understand the antecedents of substance use behaviors in an effort to intervene on those antecedents. More recent prior work in substance use research emphasizes the role of the situation in substance use, such as affective state, presence of the substance, and social pressure to use the substance (Shiffman, 2009).

Diary methods have also been used to measure connections between psychological distress and behavioral patterns. Past research has established diary

methodologies as reliable and valid in collecting information about anxiety and stress (Nelson & Clum, 2002). Several studies have established a relationship between aversive experiences - such as being placed in confrontational situations or chronic physical pain - and depressive symptoms using diary methods (Freeman, DeRubeis, & Rickels, 1996; Robbins & Tanck, 1984). Many researchers have connected substance use processes with affect and mood during situations. This research has revealed that negative affect, mood, and situational cues are related to drug cravings and use for a variety of substances, including tobacco, cocaine, heroin, and alcohol (Shiffman et al., 2007; Epstein et al., 2009; Preston & Epstein, 2011).

Diary methods have also been used with MSM with success. The majority of the work on the psychosocial correlates of substance use in MSM specifically has been done using cross-sectional methods, although in recent years there have been some longitudinal diary studies in this area (Colfax et al., 2004; Garofalo, Mustanski, McKirnan, Herrick, & Donenberg, 2007; Mustanski, Garofalo, Herrick, & Donenberg, 2007; Wilson, Cook, McGaskey, Rowe, & Dennis, 2008; Boone et al., 2013). An additional benefit of diary research in these populations is the removal of stigma and the emphasis on situational characteristics tied to risk instead of personal characteristics. MSM have often been characterized as inherently "risky" individuals who may be vectors of HIV into other communities. Research that has employed diary methods to look at situational influences of substance use and risk behavior has revealed that it is situational characteristics - often shaped by structural factors, like isolation of the gay community or poverty - that enhance vulnerability to risk for MSM, not innate traits of MSM themselves.

Measures

Cross-Sectional Survey

Demographic and health related information. This 24-item measure (Wilson et al., 2008) collected basic demographic and health-related information. Participants were asked to report on their ethnicity (Black/African-American, Black Latino/Hispanic, Afro-Caribbean, or other), age, education level, annual income, employment status, health insurance, relationship status (with a boyfriend or girlfriend, married, or single), number of current sexual partners (one versus two or more), sexual orientation/identity (gay, bisexual, or heterosexual), HIV status (HIV-positive, HIV-negative, or HIV status unknown), and past incarceration experiences (whether or not participant had been incarcerated and, if so, how many times).

Hardiness. The Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) is a 25-item scale designed to measure hardiness, a characteristic hypothesized to be related to resilience. Participants are presented to statements such as "You are able to adapt to change," "You have close and secure relationships," and "Past success gives confidence for new challenges" and are asked to rate how much they agreed with these statements. The items are responded to using a 5-point Likert-type scale, with options ranging from 0 ("not true at all") to 4 ("true nearly all of the time"). Higher scores indicate more hardiness. The CD-RISC has been validated with community-based samples of African-American undergraduate students as well as psychiatric outpatients. In this sample, the CD-RISC has a Cronbach's alpha of 0.90, indicating good reliability.

Mastery Scale. The Mastery Scale (Pearlin & Schooler, 1978) is a 7-item scale designed to measure mastery, a concept that encompasses self-efficacy, coping,

and feelings of personal control. Participants are presented with statements such as "You have little control over the things that happen to you" and "Sometimes you feel that you are being pushed around in life" and are asked how true those statements were for them personally. Participants use a 3-point Likert-type scale that ranges from 1 ("not true") to 3 ("very true"). Negative statements, items 1-5, were reverse-coded; higher scores on this scale indicated greater mastery. This scale has been validated with an ethnically and sexually diverse group of individuals in New York, as well as families in the Midwestern United States. In this sample, the Mastery Scale has a Cronbach's alpha of 0.68, indicating adequate reliability.

Perceived Social Support from Family Scale. The Perceived Social Support from Family Scale (PPS-Fa; Procidano & Heller, 1983) is a 12-item scale designed to measure the level of social support participants perceive from their mother and father. Participants are presented with statements such as "I rely on my father for moral support" and "My mother is good at helping me solve problems" and are asked to rate how true those statements are for them personally. The items are responded to using a 5-point Likert-type scale; response options range from 1 ("not true") to 5 ("very true"). Higher scores on this scale indicated higher levels of perceived support from parents. The PPS-Fa scale has two subscales, mother support and father support. In this sample, the PPS-Fa has a Cronbach's alpha of 0.92, indicating excellent reliability. The mother support subscale has a Cronbach's alpha of 0.94 and the father support subscale has a Cronbach's alpha of 0.96.

Perceived Social Support from Friends Scale. The Perceived Social Support from Friends Scale (PPS-Fr; Procidano & Heller, 1983) is a 10-item scale designed to measure the level of social support participants perceive from friends. Participants are presented with statements such as "I rely on my friends for moral

support" and "My friends are good at helping me solve problems" and are asked to rate how true those statements are for them personally. The items are responded to using a 5-point Likert-type scale; response options ranged from 1 ("not true") to 5 ("very true"). Higher scores on this scale indicated higher levels of perceived support from friends. In this sample, the PPS-Fr has a Cronbach's alpha of 0.92, indicating excellent reliability.

Internalized Homophobia Scale. The Internalized Homophobia scale (IHP; Martin & Dean, 1992) is a 9-item scale developed to measure internalized homophobia in men with same-sex sexual attractions and behaviors. For the sample of men who have sex with men, participants are presented with statements such as "I have tried to stop being attracted to men in general" and "I feel alienated from myself because of being gay or bisexual" and are asked to indicate how often they had these kinds of thoughts or feelings. The scale employed a 4-point Likert-type scale and response options ranged from 1 ("often") to 4 ("never"). Responses were coded so that higher scores indicate higher internalized homophobia. In this sample, the IHP has a Cronbach's alpha of 0.88, indicating very good reliability.

Psychological Distress. The Kessler Screening Scale of Non-Specific Psychological Distress (K10; Kessler, 2002) is a 10-item scale designed to measure depressive distress. This scale measures cognitive, affective, and behavioral symptoms of psychological distress. This scale was scored on a 4-point Likert-type scale. Participants are presented with statements of feelings and emotions such as "felt hopeless," "felt so depressed that nothing could cheer you up," and "felt tired out for no good reason" and are asked to rate how often they had felt that way over the 30 days prior to baseline. The response options ranged from 1 ("none of the time") to 5 ("all of the time.") This scale has been validated with diverse populations

of men and women, with Black participants deliberately oversampled in these studies. In the current sample, the K10 had a Cronbach's alpha of 0.92, indicating excellent reliability.

Substance Use Measure. The Substance Use Measure (Sikkema et al., 2008) is a 22-item measure developed to measure substance use in men who have sex with men. Participants are asked to indicate whether they had used a particular drug ever in their life, and then in the past two months. If they had used the drug in the two months prior to baseline, they were asked how many days per week on average they had used the drug: 1-2 days, 3-4 days, 5-6 days, or every day. Participants were asked about their use of marijuana, inhalants, cocaine, crack cocaine, methamphetamines, and ecstasy. Participants were also asked how many days per week they consumed alcohol in the past two months, as well as how many drinks they typically had on days that they drank.

Longitudinal Sex Diaries

Substance Use Before/During Sexual Encounters. When participants reported engaging in sexual behavior, they were asked about their substance use before and during their most recent sexual encounters during each of the eight weeks of the sex diaries. Participants were asked if they had consumed alcohol during the encounter and, if so, how many drinks they had. Participants were also asked if they used drugs before the sexual encounter, and if so, which specific drugs they used. Participants were allowed to specify whether they had used marijuana, inhalants, cocaine, crack cocaine, methamphetamines, and ecstasy.

Psychological Distress. During each of the eight weeks of the study, the participants were asked to complete the K10. As above, this scale was scored on a 4-

point Likert-type scale. Participants were presented with feelings and emotions such as “felt hopeless,” “felt so depressed that nothing could cheer you up,” and “felt tired out for no good reason.” When responding to items, participants were asked about how they felt during the week prior to completion. The response options ranged from 1 (“none of the time”) to 5 (“all of the time”). Across the 8 weeks of the longitudinal sex diary, the K10 had a Cronbach’s alpha of 0.91, indicating excellent reliability.

Dissertation Analysis of Data

Data Preparation

The data were prepared in Stata 13.1 (StataCorp, 2013). For ease of interpretation, standardized mean scores were prepared for the CD-RISC, Mastery Scale, IHP, and K10, so that final score for these continuous variables had a mean of 0 and a standard deviation of 1. I first reverse coded the questions on the Mastery Scale and IHP. In the original measure, higher scores on these scales indicated lower levels of mastery and lower levels of internalized homophobia. To make interpretation easier, I reverse coded the questions so that higher scores on these two scales indicated higher mastery and higher internalized homophobia respective. Following this, I computed a mean score for each participant on each of the four continuous scales by summing across the items for each scale, then divided by the number of items in each scale. I then calculated the mean for each scale. To standardize the scores, I subtracted the overall mean of each scale from each participant’s mean score and divided by the overall standard deviation.

I also created a separate stimulant use variable that combined the use of

several substances together. In the original sex diary, participants are only asked about use of substances before or during a sexual encounter if they reported having sex that week; only if they respond "yes" to substance use are they asked about the individual substances of marijuana, inhalants, cocaine, crack cocaine, methamphetamines, and ecstasy. Participants who answered that they had not used any substances at all were, by default, left as missing on these variables. I recoded these variables so that participants who indicated they had not used any substances had "no" responses, as opposed to missing responses, on the substance use variables. I then created a separate composite stimulant use variable. This variable contained a "yes" response for any participant who had used inhalants, cocaine, crack cocaine, methamphetamines, or ecstasy during their most recent sexual encounter, and a "no" response for any participant who had reported either not using one of these substances or not using any substances at all during their most recent encounter.

Descriptive Analyses

Prior to testing the hypotheses, a series of univariate analyses were conducted to describe the sample. Descriptive statistics were calculated for all of the demographic characteristics of the sample and health-related outcomes. The demographic characteristics of the sample – including ethnicity, age, education level, annual income, employment status, health insurance, relationship status, sexual orientation/identity, HIV status, and incarceration history - are presented in the Results section. Measures of central tendency and dispersion for the independent and dependent variables are also presented, and residuals were examined. Analyses were conducted using Stata 13.1 (StataCorp, 2013).

Inferential analyses

Hypothesis 1. A multilevel logistic regression model was conducted to determine whether there was a relationship between internalized homophobia and substance use before or during a sexual encounter during the 8-week diary (see appendix). Multilevel modeling, also known as hierarchical linear modeling, is a type of regression analysis that allows researchers to adjust for the effect of repeated measures on individuals, since an individual's responses to repeated measures will necessarily be correlated within the individual. The method is called *multilevel* because the resultant model has two levels - in this case, "level 1" consists of the time-variant, within-person variables that repeat across weeks (such as substance use before or during the most recent sexual encounter) and "level 2" consists of the time-invariant, between-person variables (such as internalized homophobia, measured only at baseline). The logistic regression model is used for models with dichotomous outcomes. This analysis was used to examine the relationship between internalized homophobia and the average probability of substance use before or during sexual encounters during the eight-week study. Because internalized homophobia is a time-invariant, between-person variable that was measured only at baseline, within-person differences cannot be estimated with this analysis. Unstandardized coefficients were exponentiated to produce odds ratios and probabilities of substance use as predicted by internalized homophobia. The model was estimated in Stata 13.1 (StataCorp, 2013) and was adjusted for covariates, such as age, education level, and income. This relationship was also tested with subgroups of substances: alcohol, marijuana, and stimulant drug use (inhalants, crack, methamphetamines, and ecstasy).

Hypothesis 2. A generalized multilevel structural equation model was used

to test if psychological distress might act as a mediator between internalized homophobia and substance use before or during a sexual encounter. Because internalized homophobia is a "level-two" between-person variable measured only in the cross-sectional data, and both psychological distress and substance use before/during last sexual encounter are "level-one" variables measured repeatedly across time, traditional OLS mediation analyses such as that outlined in Baron and Kenny (1986) are not sufficient. This is because a traditional model will bias the indirect effect and underestimate the standard error of this path; a traditional model does not take into account that the relationship between the mediator and the outcome is comprised of both between-person and within-person effects (Bolger & Laurenceau, 2013; Krull & MacKinnon, 2001; Preacher, Zyphur, & Zhang, 2010).

Structural equation modeling (SEM) is a family of statistical techniques for testing and estimating relationships between variables (Kline, 2011). Multilevel SEM applied to mediation analyses with longitudinal variables eliminates some of the issues associated with the use of regular multilevel regression modeling, such as the biasing of effects (Preacher et al., 2010). A multilevel structural equation model - much like a multilevel regression - takes into account both between-person and within-person effects, and allows for examining whether weekly psychological distress mediates the relationship between internalized homophobia and substance use without significantly underestimating any potential relationship. A generalized version is used because substance use, the outcome, is measured dichotomously. This model was tested using Stata 13.1 (StataCorp, 2013). The analyses were adjusted for the covariates age, number of sexual partners, and income. This relationship was also tested with alcohol, marijuana, and stimulant drug use.

Hypothesis 3. A confirmatory factor analysis (CFA) was conducted to

determine whether five hypothesized indicators of resilience were part of the latent variable of resilience. Factor analysis is a family of statistical analyses that are used to model sources of variability in a set of indicators or scores (Hoyle, 2000) . Confirmatory factor analysis - also referred to as the *measurement model* - is one type of factor analysis. When using CFA, researchers hypothesize that specific indicators covary with each other because they are all part of a specific construct, called a *factor*. Factors are not directly measured, but they account for the covariance among the set of indicators (Hoyle, 2000). In this way, factors are analogous to latent variables. The researcher then uses a structural equation model to determine the strength and direction of the relationships between these indicators and their hypothesized overarching construct. Maximum likelihood estimation yields a likelihood chi-square ratio statistic to test whether the hypothesized model is a good fit for the data and sufficiently explains the covariance between indicators (Acock, 2013). Other fit statistics are also computed to provide other evidence confirming the fit of the model to the data. To explore this hypothesis, a CFA was conducted using the observed measures of hardiness, mastery, maternal social support, paternal social support and peer social support. This analysis was conducted using Stata 13's structural equation modeling capabilities (StataCorp, 2013).

Hypothesis 4. A possible moderation effect of the latent variable of resilience on the relationship between IH and substance use before or during the last sexual encounter was tested using a generalized multilevel structural equation models with a interaction term, building upon the models from Hypotheses 2 and 3. This model was constructed using internalized homophobia and the latent variable of resilience constructed in Hypothesis 3 as independent variables, as well as an

interaction term produced by the multiplication of internalized homophobia and the latent variable of resilience constructed in Hypothesis 3. Five separate models were also constructed to examine the potential moderation effect of the individual resilience indicators (hardiness, mastery, peer support, maternal support and paternal support). In each of these, internalized homophobia was included as an independent variable, one of the resilience indicators was used as another independent variable, and the interaction between internalized homophobia and that resilience indicator was included as well. These models were also tested using generalized multilevel structural equation models. The analysis was adjusted for the covariates age, number of partners, income, and HIV status.

CHAPTER IV: RESULTS

Sample Characteristics

Table 1 presents sample characteristics for the 228 participants in the sample. The mean age of the sample was 24.8 (SD = 4.2 years) years, with ages ranging from 18 to 35. Participants were also asked to specify their ethnicity; about 62% of the men (N=137) identified as African American; about 19% (N=43) identified as Black Hispanic/Latino; about 6% (N=14) of the men identified as Afro-Caribbean/West Indian, and roughly 13% of the men (N=28) identified as mixed-race. Over 60% of participants had at least some college education, which is similar to the general population of the United States. However, only 20% of participants had a college degree or higher, which is lower than the national proportion of 30% (Census Bureau, 2013). Despite this, the sample was also a largely low-income sample, with over half making less than $10,000 per year - below the poverty line for a single person in the United States (U.S. Department of Health & Human Services, 2014) - and the overwhelming majority (86%) making less than $30,000 per year.

About three-quarters of participants identified as gay or homosexual, with about one-quarter identifying as bisexual. One participant identified as heterosexual. About one-quarter of participants (23.7%) were HIV-positive; most of the other three-quarters (74.1%) were HIV-negative. About 2.2% reported being unaware of their HIV status. This is in line with estimates of HIV infection among men who have sex with men in New York (New York City Department of Health and Mental Hygiene, 2014). Most participants (73.3%) were single; over half (58.8%) reported having sex with more than one partner at the time of the study.

Table 1: Demographic characteristics of sample

Variables		
Age	Range: 18-35	M: 24.76 SD: 4.16
Ethnicity	African-American Black Hispanic/Latino Afro-Caribbean/West Indian Mixed-Race	61.7% 19.4% 6.3% 12.6%
Education	Less than a high school diploma High school diploma/GED Some college College degree or higher	8.3% 28.9% 39.9% 22.8%
Annual income	$0-10,000 $10,001-20,000 $20,001-30,000 $30,001-40,000 More than $40,000	53.1% 20.2% 12.7% 6.1% 7.9%
Employment	Employed Student Unemployed Disability	36.9% 23.8% 34.6% 4.7%
Relationship status	Married Boyfriend or girlfriend Single	0.9% 25.9% 73.3%
Sexual status	Having sex with one partner Having sex with 2+ partners	41.2% 58.8%
Sexual orientation	Gay or homosexual Bisexual Heterosexual/straight	74.1% 25.5% 0.5%
HIV status	HIV negative HIV positive HIV status unknown	74.1% 23.7% 2.2%
Psychiatric medication	On psychiatric medication Not on psychiatric medication	10.5% 89.5%

Only 154 of the original participants were selected to participate in the weekly sex diary. The researchers purposively sampled participants who were sexually active with multiple partners, and thus theoretically more likely to contribute varied sexual

episodes to the data set. The men who participated in the weekly sex diary were more likely to be single than men not in the weekly sex diary, $\square^2 = 11.35$, $p = .003$. They were also more likely to be having sex with more than one partner than the men not in the weekly sex diary, $\square^2 = 51.57$, $p < .001$. There were no other differences between participants in the weekly sex diary and participants not in the weekly sex diary on any other demographic characteristic. Table 2 presents the demographic characteristics of the 154 participants included in the weekly sex diary.

Table 2: Demographic characteristics of weekly diary participants

Variables		
Age	Range: 18-35	M: 24.6 SD: 4.1
Ethnicity	African-American Black Hispanic/Latino Afro-Caribbean/West Indian Mixed-Race	59.9% 21.1% 5.9% 13.2%
Education	Less than a high school diploma High school diploma/GED Some college College degree or higher	6.5% 31.0% 41.3% 21.3%
Annual income	$0-10,000 $10,001-20,000 $20,001-30,000 $30,001-40,000 More than $40,000	54.2% 18.1% 12.9% 6. 5% 8.4%
Employment	Employed Student Unemployed Disability	34.7% 26.5% 34.0% 4.8%
Relationship status	Married Boyfriend or girlfriend Single	1.3% 19.3% 79.4%
Sexual status	Having sex with one partner Having sex with 2+ partners	25.2% 74.8%
Sexual orientation	Gay or homosexual Bisexual Heterosexual/straight	71.9% 27.5% 0.7%
HIV status	HIV negative HIV positive HIV status unknown	76.1% 21.9% 2.2%
Psychiatric medication	On psychiatric medication Not on psychiatric medication	11.6% 88.4%

Cross-Sectional Substance Use

Presented in Table 3 below are the substance use characteristics of the sample of 228 MSM at baseline. Participants reported whether they had used an illicit drug ever in their life, as well as whether they had used any drug (including alcohol) in the 2 months prior to baseline. The most commonly used drug was alcohol; the majority of the sample (about 64.5%) had used alcohol in the two months prior to baseline. Marijuana was the next most commonly used drug; nearly 60% had ever used marijuana, and nearly half of the sample (about 45.6%) had used marijuana in the two months prior to baseline.

Nearly one-fifth of the sample (18.7%) had used a stimulant drug in the 2 months prior to baseline. The most popular of these were amyl nitrite inhalants, followed by cocaine, ecstasy, methamphetamines and crack. Less than 5% of the sample had engaged in methamphetamine use in the two months prior to baseline, and less than 2% had used crack.

Table 3: Substance use, ever and in the past 2 months, cross-sectional sample

Drug	% ever	% Last 2 months
Alcohol	*n/a**	64.5%
Marijuana	59.7%	45.6%
Overall stimulants	30.7%	18.9%
Inhalants	16.2%	10.1%
Methamphetamines	7.5%	4.0%
Cocaine	16.7%	9.7%
Crack	3.1%	1.6%
Ecstasy	15.8%	7.5%

**Participants were not asked about lifetime alcohol use.*

Sex Diary Characteristics

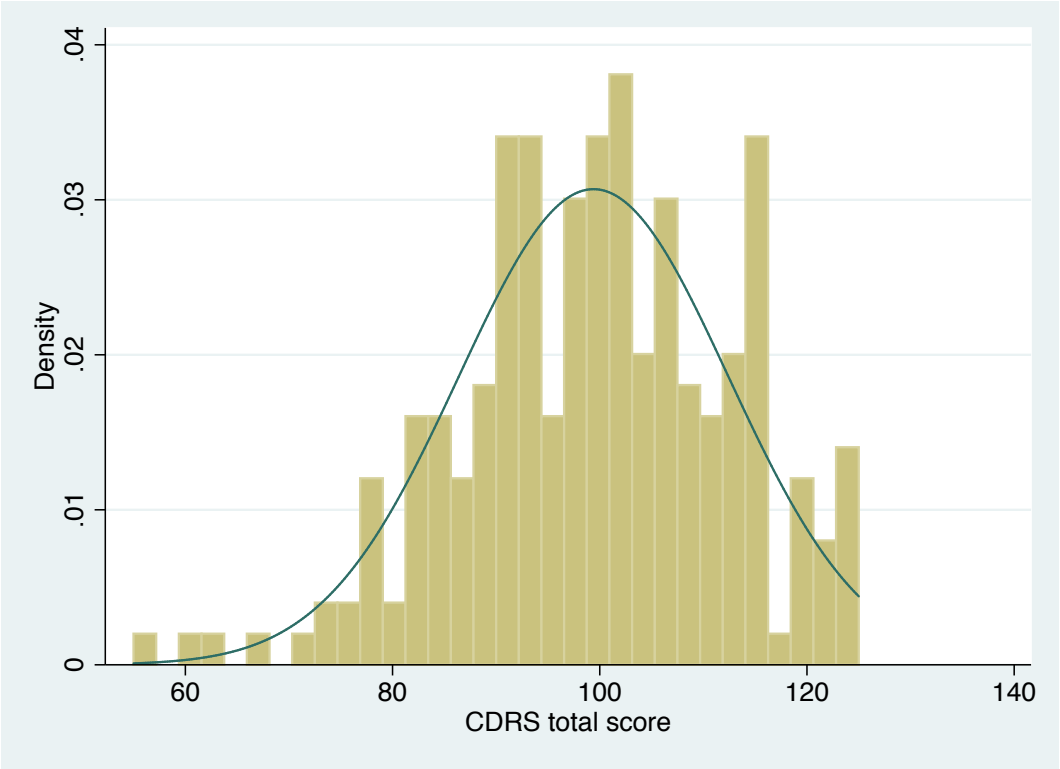
Chi-square analyses were conducted to compare the men in the sex diary to the men who were not on substance use in the two months prior to baseline. Men in the sex diary were more likely to have used inhalants in the two months prior to baseline than men who were not in the sex diary, $\square^2 = 4.23$, $p = .04$. However, there were no differences in baseline drug use between the men in the sex diary and the men who were not on any other substance.

Over the course of the 8 weeks, 124 of the 154 sex diary participants reported at least one sexual encounter. There were a total of 469 sexual episodes. There were 148 alcohol use episodes (31.6% of the total sexual episodes) and 104 episodes (22.2%) involving any illicit drug that was not alcohol Eighty-five episodes (18.1%) included marijuana use. Only 30 episodes (6.4%) included an illicit stimulant drug aside from marijuana; 20 (4.3%) of those were inhalant use episodes, 5 (1.1%) were methamphetamine episodes, and 5 (1.1%) were ecstasy use episodes. There were no crack use episodes in this sample.

Measure Summary

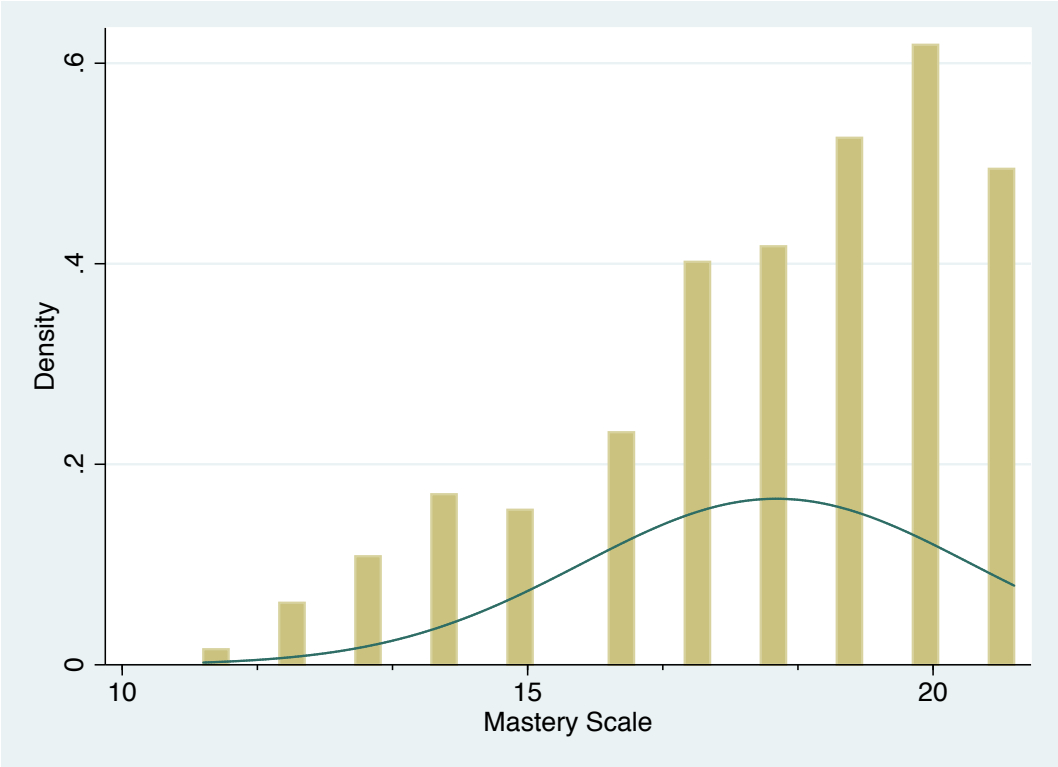
The Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) had a possible range from 25 to 125, but the actual observed range was from 55 to 125. The scale had a mean of 99.40, a median of 100, and a standard deviation of 13.00. The measure was normally distributed, with skewness of about -0.34 (normal value of 0) and kurtosis of about 3.13 (normal value of 3) indicate that the measure is not significantly skewed or peaked. Figure 1 presents the histogram and normal curve of this scale's distribution.

Figure 1: Histogram and normal curve of Connor-Davidson Resilience Scale



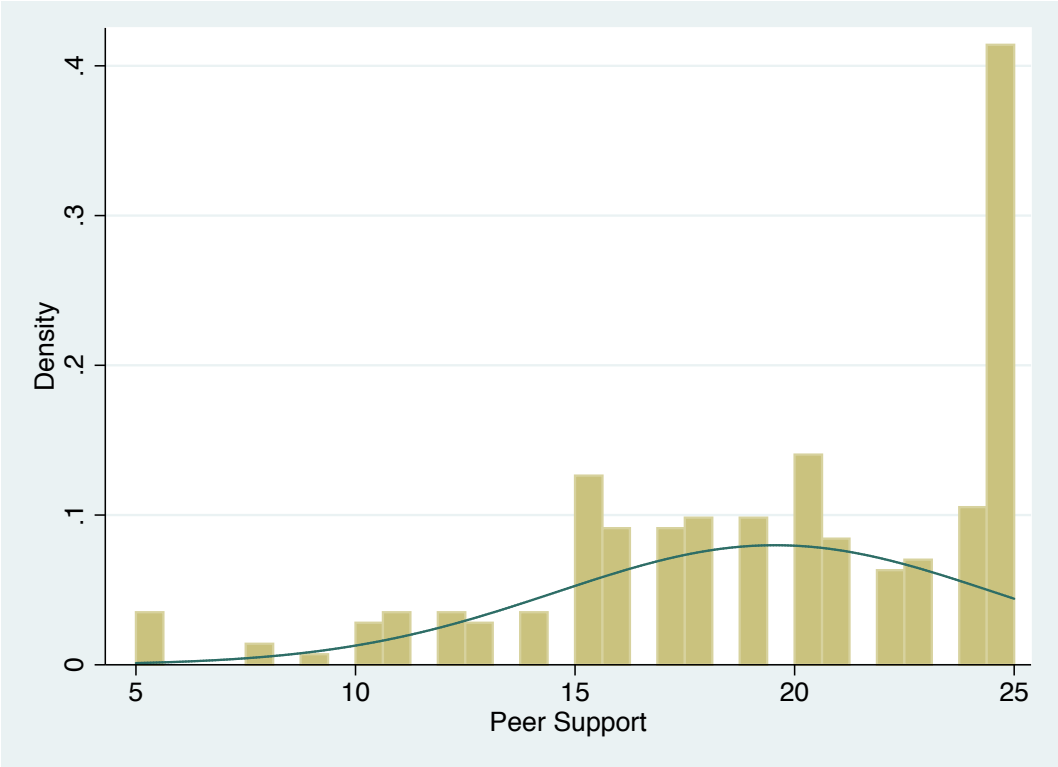
The Mastery Scale (Pearlin & Schooler, 1978) had a possible range from 7 to 21, and the actual observed range was 11 to 21. The scale had a mean of 18.08, a median of 19 and a standard deviation of 2.41. The measure was negatively skewed, with a skewness of -0.77, but had a normal kurtosis of 2.83. This indicated that participants, on average, scored higher than the population average on mastery over coping. Figure 2 presents the histogram and normal curve of the mastery scale.

Figure 2: Histogram and normal curve of Mastery Scale



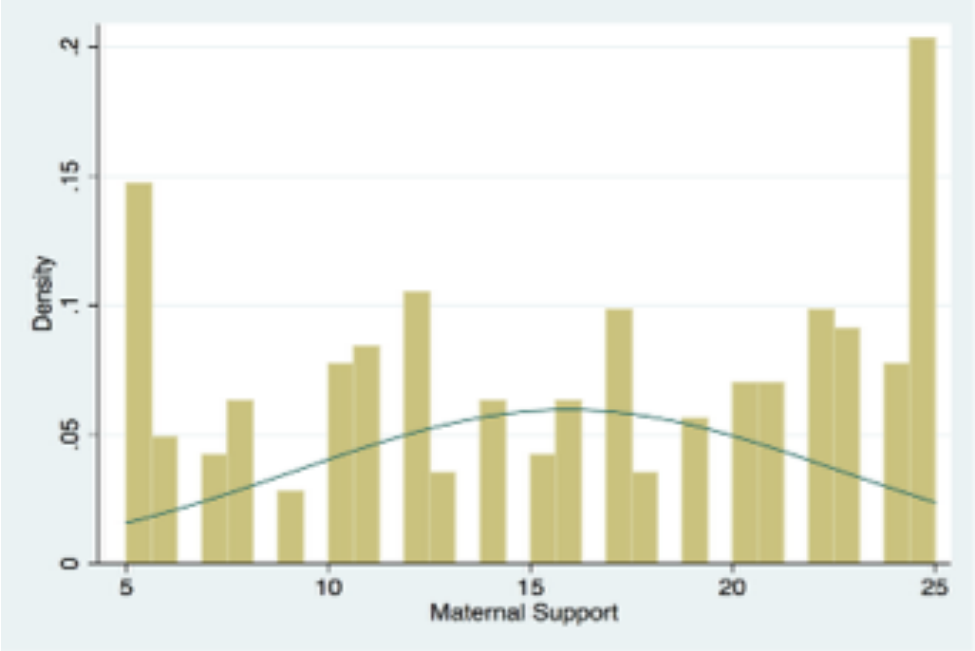
The Social Support from Friends measure (peer support; Procidano & Heller, 1983) had a possible range from 5 to 25, and the actual observed range was 0 to 25. The scale had a mean of 19.56, a median of 20, and a standard deviation of 5.00. The measure was about normally distributed, with a skewness of -0.76 and a kurtosis of 3.04. Figure 3 presents the histogram and curve of the scale.

Figure 3: Histogram and normal curve of Social Support from Friends Scale.



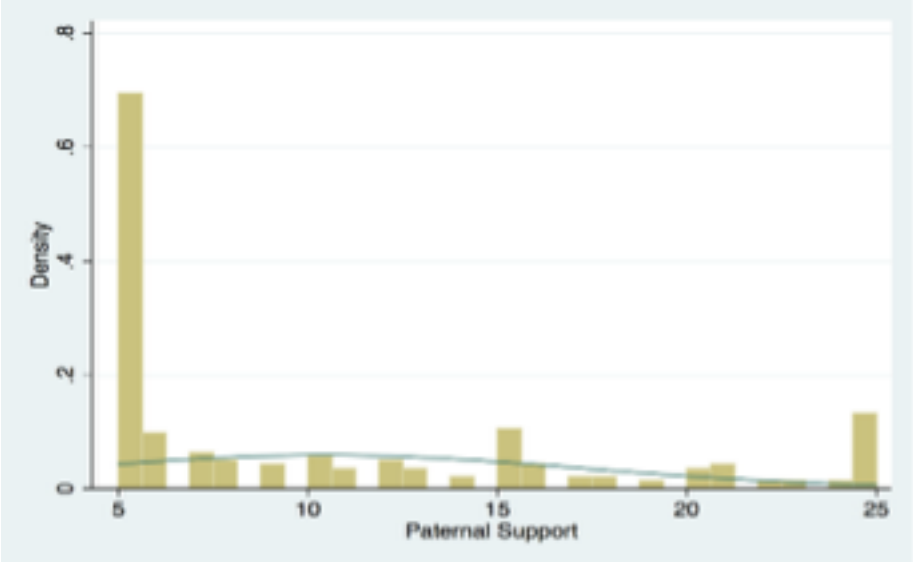
The Social Support from Parents, Maternal subscale measure (maternal support; Procidano & Heller, 1983) had a possible range from 5 to 25, and the actual observed range was 5 to 25. The scale had a mean of 15.92, a median of 16.50, and a standard deviation of 6.70. The measure was not significantly skewed, with a skewness of -0.17, but was relatively platykurtic, with a kurtosis of 1.70. This kurtosis indicates that the participants were more spread across the range of the scale than would be expected in a more normally distributed sample. Chart 4 presents the histogram and distribution of this scale.

Figure 4: Histogram and normal curve of Social Support from Parents-Maternal subscale



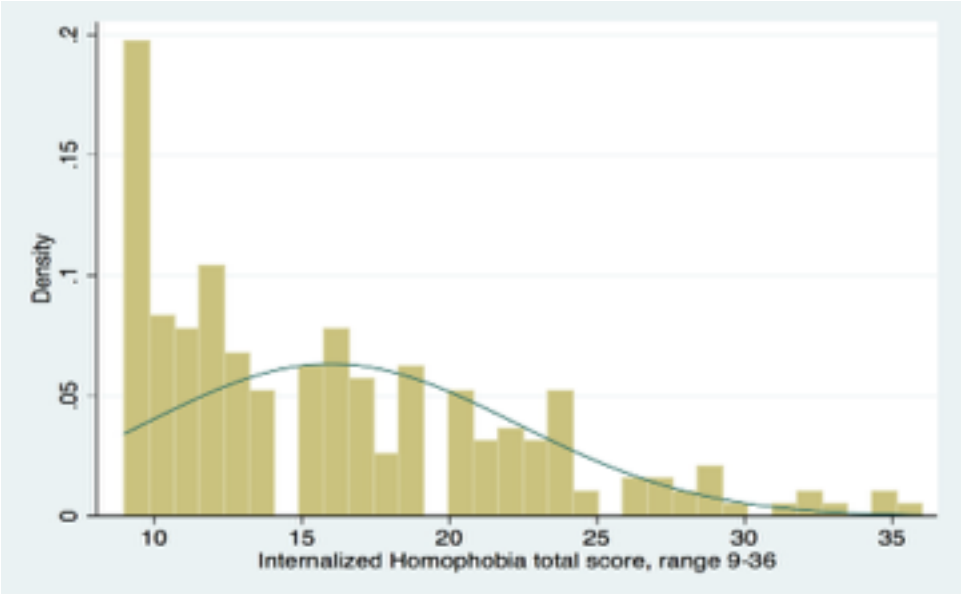
The Social Support from Parents, paternal subscale measure (paternal support; Procidano & Heller, 1983) had a possible range from 5 to 25, and the actual observed range was 5 to 25. The scale had a mean of 10.44, a median of 7.00, and a standard deviation of 6.79. The measure was positively skewed, with a skewness of 0.98. The scale was slightly platykurtic at 2.59, indicating a flattening of the curve and a wider spread across the range of responses. Chart 5 below presents the histogram and distribution of this subscale.

Figure 5: Histogram and normal curve of Social Support from Parents-Paternal subscale.



The Internalized Homophobia Scale (Martin & Dean, 1992) had a possible range from 9 to 36 and the actual observed range was 9 to 36. The scale had a mean of 15.98, a median of 15.00, and a standard deviation of 6.31. The measure was positively skewed, with a skewness of 0.91, and a fairly normal kurtosis of 3.24. Although participants were about normally clustered around the mean, the mean for this sample was quite a bit lower than the mean for a normally distributed sample, indicating that average levels of internalized homophobia in this sample were overall low. Figure 6 below presents the histogram and distribution of this scale.

Figure 6: Histogram and normal curve of Internalized Homophobia Scale



Pearson's correlations were conducted on the measures to indicate the level of inter-correlation. The strongest correlation was between hardiness and mastery, $r = .50$, $p < .001$. All other measures were significantly but weakly correlated with each other, with r coefficients ranging from .09 to .37.

Multivariate Cross-Sectional Analyses

The following analyses were performed with the cross-sectional data collected at baseline. These analyses covered all 228 participants.

A logistic regression analysis was conducted to determine if there were a cross-sectional relationships between overall drug use in the two months prior to baseline and internalized homophobia. The model was adjusted for ethnic identity, age, how many sexual partners the participant had (one vs. more than one) and income. There was no relationship between internalized homophobia and overall drug use ($B = .03$, $p = .184$). Race and age were not significant covariates, but participants who

were having sex with more than one partner (*B* = .73, p = .015) and who were poorer (*B* = -.28, p = .005) were more likely to have used drugs in the two months prior to baseline.

A set of logistic regression analyses was conducted to determine if there were a cross-sectional relationships between drug use in the two months prior to baseline and internalized homophobia. These relationships are presented in Table 4 below. The potential covariates of age, ethnic identity, sexual status, and income were adjusted for in the analyses. Only cocaine use in the two months prior to baseline was significantly related to internalized homophobia, *B* = .08, *p* = .026. The odds ratio for this relationship was 1.08 (95% CI 1.01-1.16).

Table 4: Relationship between internalized homophobia and substance use 2 months prior to baseline.

Variable	Coeff.	Std. Err.	*p*	OR	95% CI
Marijuana	0.02	0.02	0.340	1.02	[0.98, 1.07]
Inhalants	0.004	0.04	0.903	1.00	[0.93, 1.08]
Cocaine	0.08	0.03	0.026*	1.08*	[1.01, 1.16]
Crack	0.09	0.07	0.196	1.10	[0.95, 1.26]
Meth	0.02	0.05	0.661	1.02	[0.92, 1.14]
Ecstasy	0.07	0.04	0.074	1.07	[0.99, 1.16]
Stimulants	0.04	0.03	0.194	1.04	[0.98, 1.09]
Alcohol	-0.003	0.02	0.881	1.00	[0.95, 1.04]

** p < .05, **p < .01*

Participants who were having sex with more than one partner were more likely to have used marijuana (*B* = 0.62, p = 0.034), inhalants (*B* = 1.17, p = .046), and stimulants (*B* = 0.94, p = 0.023) in the two months prior to baseline. Lower income participants were more likely to have used marijuana in those 2 months (*B* = -0.29, p = .004). Older participants were more likely to use methamphetamines (*B* = 0.20, p

= 0.03). Ethnic identity was not a significant covariate in any of the logistic regression analyses.

Internalized Homophobia, Psychological Distress and Substance Use

A set of random-effects multilevel logistic regressions were performed to determine if there were any relationships between internalized homophobia and weekly drug use. The internalized homophobia score was standardized for easier interpretation of coefficients. Given that internalized homophobia is a person-level factor, this analysis can only look at between-person differences – in other words, whether people with higher levels of internalized homophobia are also more likely, on average, to use substances before or during a sexual encounter. Scores on the internalized homophobia scale were transformed into *z*-scores for ease of interpretation, with a mean of 0 and a standard deviation of 1. Internalized homophobia was only related significantly to alcohol use before or during a sexual encounter, while adjusting for covariates. In this case, participants with higher internalized homophobia scores were, on average, more likely to have an alcohol use episode before or during a sexual encounter. For every one standard deviation increase in internalized homophobia, participants were 63% more likely to have had an alcohol use episode during the 8-week study period. Table 5 presents the results from the multilevel logistic regression analysis.

Table 5: Internalized homophobia and alcohol use before or during the most recent sexual encounter.

Variable	Coeff.	Std. Err.	*p*	OR	95% CI
IH (standardized)	0.51	0.20	0.013*	1.63*	[1.11, 2.42]
2+ sexual partners	1.60	0.57	0.005**	4.97**	[1.63, 15.17]
HIV-positive	0.30	0.51	0.564	1.34	[0.49, 3.67]
Income	0.13	0.12	0.296	1.14	[0.89, 1.44]
Age	-0.11	0.06	0.054	0.89	[0.80, 1.00]
Intercept	-0.64				

** $p < .05$, **$p < .01$*

There was not, however, a linear relationship between the number of drinks a participant drank on average before or during a sexual encounter and internalized homophobia (B = .02, p = .931.) No covariates were significantly related to number of drinks before/during a sexual encounter.

Internalized homophobia was not related to marijuana (B = 0.15, p = .598), overall drug use (B = 0.13, p = .676), or overall stimulant use (B = 0.11, p = .875) before or during sexual encounters. Poorer participants were more likely to to use any drugs (B = -0.54, p = .008) and specifically marijuana (B = -0.60, p = .017), before or during weekly sexual encounters, but not stimulants.

A multilevel generalized structural equation model was tested to determine if psychological distress acted as a mediator in the relationship between internalized homophobia and alcohol use. There was no mediation relationship, B = -.05, p = .609.

A series of multilevel logistic regression analyses were conducted to determine whether there was a relationship between weekly levels of psychological distress and substance use other than alcohol before or during the most recent sexual encounter. Because both of these variables were measured at the weekly level, these analyses

examined within-person differences - whether weekly levels of psychological distress influenced the probability of substance use connected to a sexual encounter on a given week. There was no relationship between overall illicit drug use (B = .06, p = .747), marijuana use (B = -.09, p = .682), or stimulant use (B = -.31, p = .582) and weekly depression.

A multilevel linear regression analysis was conducted to determine whether internalized homophobia was independently related to average weekly depression. Internalized homophobia and depression were both transformed into z-scores for ease of interpretation. The model was adjusted for number of sex partners (1 or more than 1), HIV status, and age. Internalized homophobia was related to depression, B = .33, p < .001. For each one standard deviation increase in internalized homophobia, participants scored, on average, a third of a standard deviation higher on depression. Table 6 displays these findings.

Table 6: Relationship between internalized homophobia and weekly levels of depression

Variable	Coeff.	Std. Err.	*p*	95% CI (coeff.)
IH (standardized)	0.33	0.06	<.001**	[0.22, 0.44]
2+ sexual partners	0.26	0.13	0.059	[-0.01, 0.52]
HIV-positive	-0.01	0.15	0.921	[-0.31, 0.28]
Income	-0.05	0.04	0.185	[-0.12, 0.02]
Age	0.01	0.02	0.545	[-0.02, 0.04]
Intercept	-0.61			

** p < .05, **p < .01*

Latent Variable Analysis of Resilience as a Construct

A structural equation model was used to conduct a confirmatory factor analysis (CFA) to attempt to construct a composite latent variable of resilience. The CFA was

conducted using five variables that have been previously hypothesized in the literature to underly the latent variable of resilience – mastery of coping skills measured with the Mastery Scale (Pearlin & Schooler, 1981), hardiness traits as measured with the Connor-Davidson Resilience Scale (CDRS); {Connor & Davidson, 1996}, and peer support, maternal support, and paternal support, as measured by the Perceived Support from friends and Perceived Support from Parents scales (Procidiano & Heller, 1983).

Figure 7: Measurement model of resilience as a latent variable

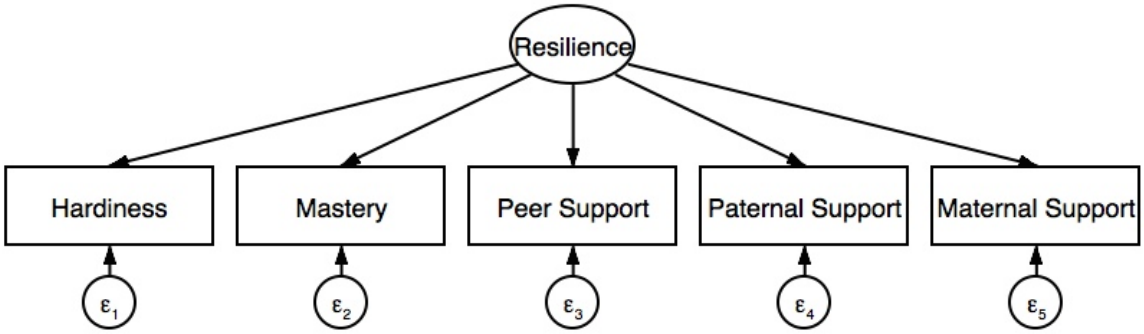


Table 7 shows the standardized coefficients for this model.

Table 7: Standardized coefficients for the measurement model of resilience.

Indicator	Std. Coeff.	Std. Err.	p	95% CI
Peer support	0.29	0.07	<.001**	[0.15, 0.43]
Paternal support	0.20	0.08	<.015*	[0.04, 0.38]
Maternal support	0.37	0.08	<.001**	[0.21, 0.52]
Mastery	0.55	0.07	<.001**	[0.43, 0.67]
Hardiness	0.88	0.09	<.001**	[0.71, 1.06]

** p < .05, **p < .01*

The likelihood ratio chi-square test of this model versus a saturated model was significant, $\square^2(5) = 22.79$, $p < .001$. This indicates that this model of resilience does not significantly reproduce the covariance matrix of the original indicators, indicating that it is not a good fit for the data.

The comparative fit index for this model was 0.846, the RMSEA was 0.131, and the SRMR was 0.065. The combination of these fit statistics indicate that this model is not a good fit for the latent variable of resilience. The comparative fit index (CFI) for this model is .846. Generally a model with good fit has a CFI above a 0.90 (Hu & Bentler, 1999); therefore, this model is not a good fit. The root mean squared error of approximation (RMSEA) penalizes the model for complexity; this is because greater complexity gives a measurement model a better chance of success by chance (Acock, 2013). Generally an RMSEA of less than .05 indicates a good fit; less than .08 indicates a reasonably close fit (Acock, 2013; Hu & Bentler, 1999). The RMSEA for this model is .131, which is not a reasonably close fit. The CFI confirms this. The standardized root mean-squared residual SRMR is a measure of how close a model comes to reproducing the correlations between each indicator within the factor, on average. Generally, less than .08 is a good recommended value (Acock, 2013; Hu & Bentler, 1999). This model's is .065, but in combination with the other two fit statistics, this model of resilience does not seem to be a good overall fit.

The standardized coefficients indicate that paternal support is the weakest predictor of resilience in this model. Analyses of this variable indicated that it was heavily skewed negatively, with most participants scoring relatively low on this measure. Thus, the indicator of paternal support was dropped and a second CFA was performed using just hardiness, mastery, peer support, and maternal support.

Figure 8: Modified measurement model for resilience as a latent variable

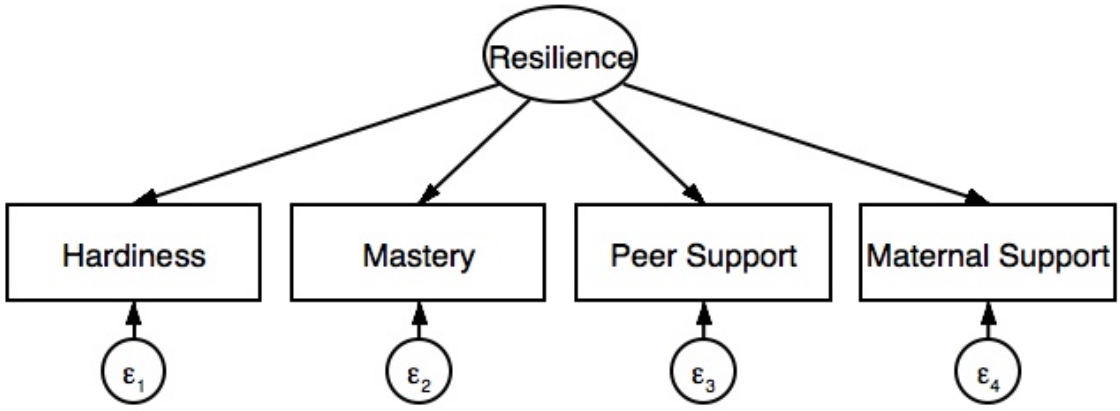


Table 8 presents the standardized coefficients below.

Table 8: Standardized coefficients for the modified model of resilience.

Indicator	Std. Coeff.	Std. Err.	p	95% CI
Peer support	0.27	0.07	<.001**	[0.13, 0.41]
Maternal support	0.32	0.08	<.001**	[0.17, 0.48]
Mastery	0.51	0.08	<.001**	[0.36, 0.67]
Hardiness	0.98	0.12	<.001**	[0.74, 1.22]

** p < .05, **p < .01*

The likelihood ratio test of this model versus a saturated model was not significant, $\square^2$ (5) = 1.76, p = .416. This indicates that this model of resilience significantly reproduces the covariance matrix of the original indicators and is as good as a saturated model that examines all relationships between all variables in the measurement model.

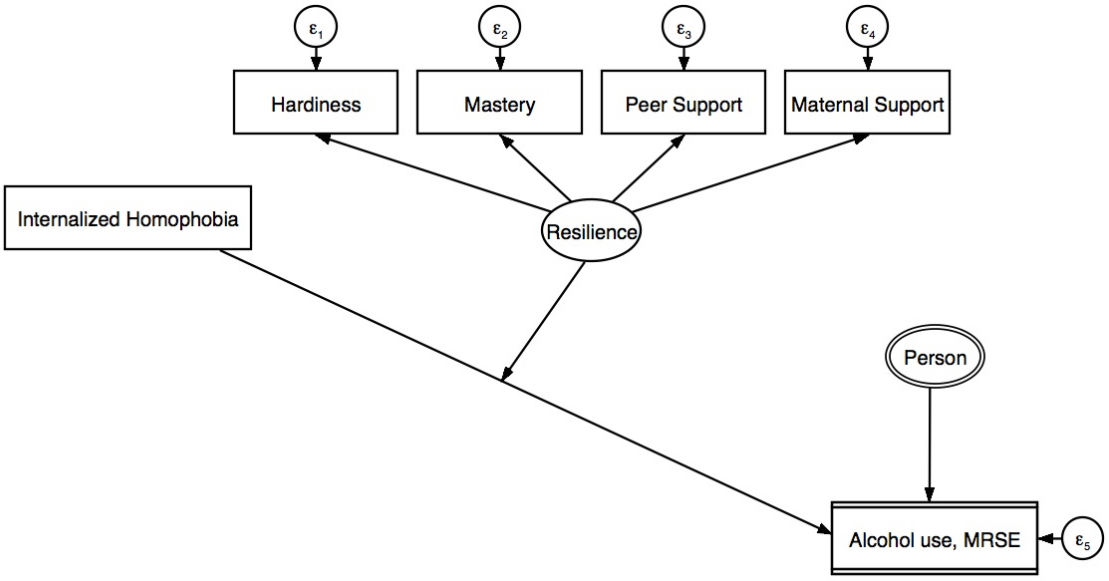
The comparative fit index for this model was 1.00, the RMSEA was < .001, and the SRMR was 0.021. The combination of these fit statistics indicate that this model

is a good fit for the latent variable of resilience. Hu and Bentler (1999) recommend a cutoff value of 0.95 or greater for CFI with cut-off values of 0.06 or less for RMSEA and 0.08 or less for SRMR. The *p* of close fit was 0.579, indicating that the model is a close-fitting model - one with an acceptable level of specification error. According to these suggested values, the model of these four indicators as parts of the construct of the latent variable of resilience is a good fit; the combination of these four indicators seems to accurately represent a constellation of factors that important to measuring and identifying resilience in young black MSM.

Resilience as a Moderator in the Relationship Between Internalized Homophobia and Alcohol Use

A generalized structural equation model was specified to determine whether the latent variable of resilience specified above functioned as a moderator in the relationship between internalized homophobia and alcohol use in young black MSM. Given that resilience was structured using only between-person variables measured at baseline, the model was a between-persons model examining whether resilience moderated the between-person relationship between internalized homophobia and average probability of engaging in alcohol use before or during the most recent sexual encounter over the course of the 8 weeks of the study. Diagram 3 depicts the specification of the generalized structural equation model.

Figure 9: Resilience as a moderator of the relationship between internalized homophobia and alcohol use



The latent construct of resilience was independently related to average probability of alcohol use before or during a sexual encounter, $B = .51$, $p = .007$. The odds ratio was 1.67; the odds of using alcohol during a sexual encounter went up by a factor of 1.67 for each additional point on the composite resilience measure.

However, this construct of resilience was not a significant moderator of the relationship between internalized homophobia and alcohol use. Results are presented below in Table 9.

Table 9: Internalized homophobia and resilience's relationship to alcohol use before or during the MRSE.

Variable	Coeff.	Std. Err.	*p*	OR	95% CI
IH (standardized)	0.56	0.20	0.005**	1.74**	[1.18, 2.58]
Resilience	0.51	0.19	0.007**	1.67	[1.15, 2.42]
IH x Resilience	-0.11	0.17	0.521	0.90	[0.64, 1.25]
2+ sex partners	1.80	0.59	0.002**	6.04**	[1.89, 19.26]
HIV-positive	-0.08	0.52	0.878	0.92	[0.33, 2.55]
Income	0.09	0.12	0.476	1.09	[0.86, 1.38]
Age	-0.07	0.05	0.172	0.93	[0.84, 1.03]
Intercept	-2.79				

** $p < .05$, **$p < .01$*

Multilevel logistic regression analyses were then conducted to model the potential moderating influence of the individual resilience indicators (scores on the hardiness, mastery, peer support and parental support measures) on the relationship between internalized homophobia and alcohol use. Like the scores on internalized homophobia, the scores were standardized/transformed into z-scores for ease of interpretation, with means of 0 and standard deviations of 1.

Hardiness was independently related to average probability of alcohol use before or during the most recent sexual encounter, $B = .64$, $p = .004$. The odds ratio was 1.89. However, hardiness did not moderate the relationship between internalized homophobia and alcohol use before or during the most recent sexual encounter. Table 10 presents the results below.

Table 10: Relationship between internalized homophobia, hardiness, and alcohol use before/during MRSE

Variable	Coeff.	Std. Err.	*p*	OR	95% CI
IH (standardized)	0.55	0.20	0.005**	1.73**	[1.17, 2.54]
Hardiness	0.64	0.22	0.004**	1.89**	[1.23, 2.91]
IH x hardiness	-0.14	0.20	0.493	0.87	[0.59, 1.30]
2+ sex partners	1.79	0.56	0.002**	5.99**	[1.97, 17.99]
HIV-positive	-0.10	0.52	0.839	0.90	[0.33, 2.47]
Income	0.09	0.12	0.467	1.09	[0.86, 1.38]
Age	-0.07	0.06	0.240	0.93	[0.83, 1.03]

** $p < .05$, **$p < .01$*

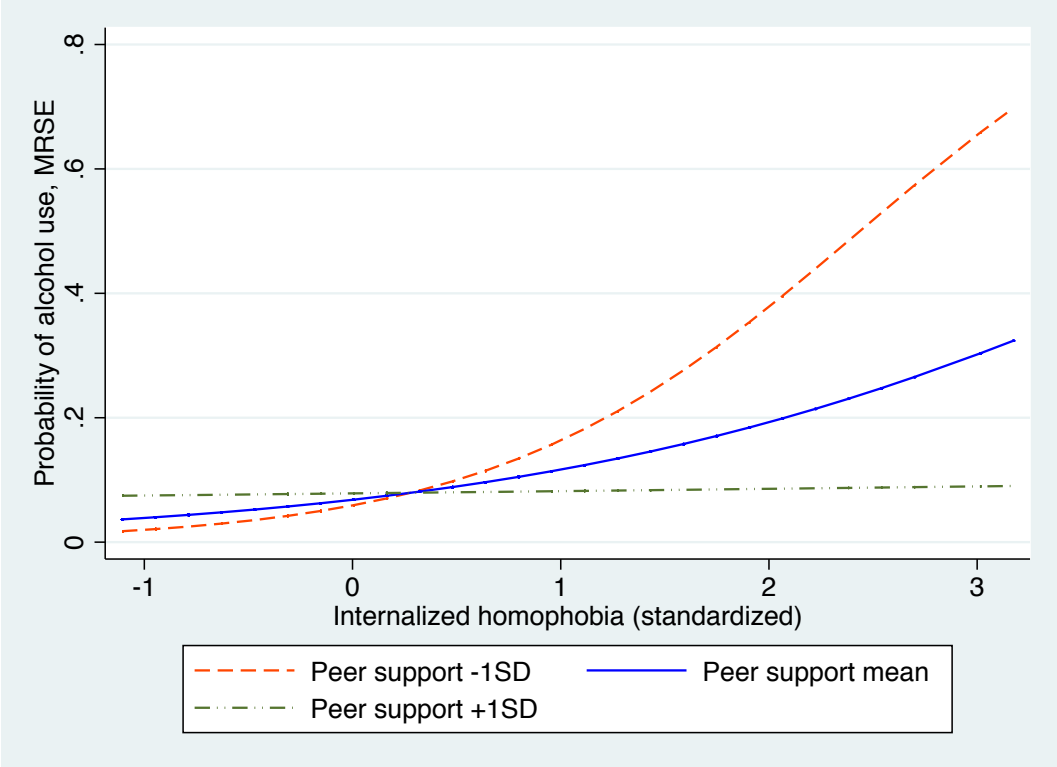
Peer support was not independently related to the average probability of alcohol use before or during the most recent sexual encounter, $B = 0.15$, $p = .546$. However, there was a significant interaction of effect of peer support on the relationship between internalized homophobia and average probability of alcohol use, $B = -0.54$, $p = .017$. Participants with higher peer support had a weaker relationship between internalized homophobia and probability of alcohol use before or during a sexual encounter. In this sense, peer support did seem to "buffer" the relationship between internalized homophobia and peer support. Results from this analysis are presented in Table 11.

Table 11: Relationship between internalized homophobia, peer support, and alcohol use before/during MRSE

Variable	Coeff.	Std. Err.	*p*	OR	95% CI
IH (standardized)	0.60	0.21	0.004**	1.82**	[1.21, 2.75]
Peer support (std.)	0.15	0.25	0.546	1.16	[0.72, 1.89]
IH x peer support	-0.54	0.23	0.017*	0.58*	[0.37, 0.91]
2+ sex partners	1.47	0.56	0.008**	4.34	[1.47, 12.76]
HIV-positive	0.41	0.50	0.421	1.51	[0.56, 4.03]
Income	0.16	0.12	0.169	1.17	[0.93, 1.49]
Age	-0.13	0.06	0.034*	0.88	[0.78, 0.99]
Intercept	-4.79				

These results are presented graphically in Figure 10.

Figure 10: Peer support as a moderator of the relationship between internalized homophobia and alcohol use before/during MRSE



The average relationship, as already mentioned, is that participants with higher levels of internalized homophobia also were more likely to use alcohol before or during their most recent sexual encounter. However, this relationship was weaker for participants with stronger peer support. The probability of alcohol use before or during a sexual encounter increased from less than 20% with a mean level of internalized homophobia to about 70% for with internalized homophobia three standard deviations above the mean for participants who had who had peer support one standard deviation below the mean. However, for participants who had average levels of peer support, the probability of alcohol use did not rise above 40%, and for

participants with peer support one standard deviation above the mean, the probability of alcohol use hardly rose at all.

Neither maternal support (B = -.11, p = .553) nor mastery (B = -.19, p = .330) were significant moderators of the relationship between internalized homophobia and alcohol use. Neither maternal support (B = .18, p = .382) nor mastery (B = .33, p = .154) were independently related to alcohol use before or during the most recent sexual encounter.

CHAPTER V: DISCUSSION & CONCLUSIONS

Summary & Discussion of Results

The purpose of this dissertation was to contribute to the literature on minority stress by investigating the relationships between internalized homophobia, psychological distress, and substance use before or during sexual episodes in young Black MSM. The dissertation also investigated a conceptual model of resilience assets and resources that contribute to the engagement of resilience processes in young Black MSM, and examined whether these assets and resources moderated the relationship between internalized homophobia and substance use outcomes in this population. The study is unique in that it investigates these variables in a sample of young Black MSM, a population that is often overlooked in extant research on these topics. In addition, the study takes a longitudinal approach to examining these factors, with the potential to obtain more accurate measures of average behavior for the men in the sample. In this chapter, the findings of this dissertation are summarized and examined in the context of previous research in the areas of minority stress, coping, cognitive escape and substance use among young MSM. Limitations of the research are presented, with an eye towards streamlining interpretation of the findings. The contributions of this research to the overall literature in the field of public health psychology - particularly to the minority stress and cognitive escape literature - are discussed. In addition, this chapter includes a consideration of the implications of this research for public health practitioners, intervention design, and health care providers. The chapter concludes with suggestions for future research related to this area.

Hypothesis 1: Internalized homophobia and substance use before or during the most recent sexual encounter have a positive linear association with one another

Because internalized homophobia was measured at the person level rather than at the weekly level, higher individual levels of internalized homophobia were hypothesized to be associated with a higher overall probability of a substance use episode over the course of the eight weeks of the study. Investigation into this hypothesis uncovered mixed findings. Internalized homophobia was not related to the probability of any substance use over the eight weeks. When individual substances were investigated, internalized homophobia was only significantly related to the probability of alcohol use before or during the most recent sexual encounter. Having two or more sexual partners was also a significant covariate in this model - participants with two or more sexual partners were more likely to use alcohol before or during a sexual encounter - but neither age nor income were significant covariates.

The relationship between internalized stigma and alcohol use is supported by previous research. As previously noted, alcohol use has been associated with avoidant coping mechanisms (Cooper et al., 1988; Fromme & Rivet, 1994; Holahan et al., 2001); this connection is far more established than connections to other illicit drug use. People who use emotion-focused coping mechanisms are far more likely to drink to cope with stress than people who use more problem-focused coping methods (Cooper et al., 1988). As internalized homophobia is a form of stigma that is predicated upon structural forces – and often not directly precipitated by a dominant other – young Black MSM may find themselves faced with few other choices of ways to cope with distressed feelings of internalized homophobia. Indeed, internalized homophobia has been connected to greater avoidant coping (Nicholson

& Long, 1990). The young Black MSM in this sample may use alcohol as a way to cope with internalized homophobia during sexual situations.

However, in this sample there was no relationship found between internalized homophobia and the use of other substances. Given the little research that has been conducted in this area, there are few other studies with which to compare this finding. However, in the present sample, use of illicit substances other than marijuana was low. There were only 30 total substance use episodes of substances other than marijuana and alcohol in this sample. This is consistent with previous studies; Black MSM in general have low lifetime use of illicit substances (Harawa et al., 2004). The lack of association could be due to low power to detect differences with such a small number of episodes. Furthermore, it is possible that internalized homophobia has a more distal relationship with substance use. As suggested by Shrout and Bolger (2002), if there are many intervening variables between internalized homophobia and substance use, it is very possible for the relationship to not turn out to be statistically significant. More sophisticated modeling techniques with more potential intervening variables may be necessary, including intervening variables that are more proximal to substance use.

However, there is little previous research on the connections between illicit substance use and coping mechanisms. It is quite possible that young Black MSM's relationship with other illicit substance is simply different from their relationship with alcohol. Alcohol is a readily available substance that even ubiquitous at venues at which young Black MSM gather. Although illicit substances are also often present in the social venues young Black MSM frequent, they are typically more difficult to obtain than alcohol, and there is more stigma attached to their use. This could lead to a connection between stigma and alcohol, but not other illicit drugs. The use of

some of these drugs may have different meanings for young Black MSM - the use of amyl nitrite, or inhalant "poppers," has often been connected to the enhance of sexual pleasure and may become a ritualized feature of casual sex with this population (Mimiaga et al., 2010). Young Black MSM may use different kinds of substances for different purposes, and alcohol may be the focal point for those struggling with stigma-related problems.

One other telling finding from this analysis was that young Black MSM with two or more sexual partners were more likely to have used several of the substances - specifically marijuana, inhalants, and overall stimulants - before or during their most recent sexual encounter. This is in line with much of the previous literature linking multiple sexual partners to substance use (Semple et al., 2002); the difference here, however, is that multiple sexual partners is linked to substance use *specifically* in the context of sexual encounters. This is an important finding, given that previous research has shown that substance use may interfere with good sexual decision-making and lead to higher rates of unprotected intercourse (Boone et al., 2013). Substance use before or during a sexual situation may lower inhibitions and make young Black MSM more receptive to the idea of having sex with multiple partners. The co-occurrence of multiple sexual partners and substance use during sexual situations may heighten the risk of risky sexual behavior and subsequent HIV and STI transmission.

Hypothesis 2: Psychological distress mediates the relationship between internalized homophobia and substance use.

If hypothesis 1 was supported through the data analysis, it was hypothesized that psychological distress would mediate this relationship. Higher levels of

internalized homophobia would, theoretically, increase psychological distress, which would lead to a greater probability of substance use. While higher levels of internalized homophobia were associated with higher levels of psychological distress in this sample, psychological distress was not statistically significantly associated with alcohol use. It also was not related to use of any of the other measured substances.

General social stress theory and the minority stress model supports this observed positive relationship between internalized homophobia and psychological distress. Internalized homophobia may even be a more proximal or even direct - even if unconscious - factor in the psychological distress experienced by young Black MSM. However, psychological distress was not directly related with substance use in this sample. This finding contradicts much of the previous literature - even work specifically with young MSM and predominantly Black samples of MSM - that has found that substance use and psychological distress are related (Davidson et al., 1992; Dew et al., 1997; Stall et al., 2001, 2003; Boone et al., 2013).

Again, here, the number of illicit substance use episodes may have played a factor. In addition, in this sample psychological distress was significantly positively skewed - the mean score was about 15 in a scale that ranged from 10 to 50. With few instances of illicit substance use and little variability in levels of psychological distress, this sample may have not yielded the statistical power necessary to detect any existing differences. The measures used in this dissertation also did not measure substance use with the depth that could have been gained from a qualitative interview or a more detailed assessment. Further research is needed to investigate the connections between substance use and psychological distress, particularly in

young Black MSM, as the relationship may be different from that found in predominantly white samples.

Hypothesis 3: Hardiness, mastery, paternal support, maternal support, and peer social support are all indicators that contribute significantly to the latent variable of resilience.

Hypothesis 3 concerned resources and assets that might contribute to resilience in young Black MSM. A model with all five of these indicators was not a good fit for the data, but a model with just hardiness, mastery, maternal support and peer support did appear to be a good fit for the data, fitting considerably better than a saturated model. These findings indicate that the assets of hardiness and mastery, and the resources of maternal and peer social support, may be important factors in engaging resilience processes in young Black MSM. These findings are in line with past literature that has associated these assets and resources with positive coping mechanisms and the ability to rebound from stressors (Ganellen & Blaney, 1984; Hall, 1999; Holahan & Moos, 1981; Kobasa et al., 1982; Lambert & Lambert, 1999; Pinkerton & Dolan, 2007; Rothman et al., 2012; Ryan et al., 2010).

Paternal support did not seem to contribute to the model of resilience. Paternal support was overall low in this sample; this is consistent with past studies of young MSM, which generally shows that young MSM feel less supported by their fathers than other members of their families (Kalichman, DiMarco, Austin, Luke, & DiFonzo, 2003). This may be an especially salient issue for young Black MSM. Black children are much more likely to be reared in single-parent, woman-led households than two-parent and/or male-led households, with nearly 70 percent of young Black people being raised in a single-parent – almost always mother-led – household (Choi

& Jackson, 2011). The absence of a father or other male relative role model is one of the most common experiences among young Black MSM (Malebranche et al., 2009). Absence or diminished presence of a father figure in many of these young Black men's lives may have led to diminished importance of the paternal support resource in the resilience model. Hegemonic masculinity in black communities may also contribute to low perceived paternal support in these young Black men Black fathers may be viewed as the keepers of traditional, "proper" masculinity within Black households and communities – and within Black communities, a gay or bisexual identity is often considered incongruent with "real' Black masculinity (Malebranche et al., 2009). Young Black MSM may understandably feel less supported by fathers who view it as their role to enforce this archetype of masculinity

More research should be put into clarifying these assets and resources and identifying potential others that could contribute to resilience in young Black MSM. Coping is a construct that could be explored in more detail in relation to resilience; the measures used in this dissertation only examined the general concept of mastery over coping. However, styles of coping, such as avoidant- versus approach-focused coping, may be critical influences on the resilience processes of young MSM. There is already some support for the idea that people who use approach-focused coping are overall more resilient than those who use avoidant coping mechanisms (Beasley, Thompson, & Davidson, 2003; Tait, Birchwood, & Trower, 2004). There may additionally be other personal assets that contribute significantly to resilience in young Black MSM, such as self-esteem, self-efficacy, internal locus of control, and optimism (Campbell-Sills, Cohan, & Stein, 2006; Moran & Eckenrode, 1992; Smith, 2006; Staudinger, Freund, Linden, & Maas, 1999).

There is a rich and deep literature on social support; within that literature are many constructs that could potentially add to a construct of resilience. The measures of social support used in this dissertation simply asked participants to indicate how supported they felt by their peers and parents. A key part of resilience, however, may be actual received incidents of support or the ability of young Black MSM to recall resources that they can rely upon to deal with stress. For example, a young man may perceive less social support from peers – but when asked, may be able to recall specific incidents of support he received that could be connected to resilience. It is possible that the perception of social support has a different connection to poor health outcomes than the actual receipt of that support. Moreover, there are different types of social support that may have different effects on health outcomes. For example, a good deal of the extant literature has focused on differences between emotional support, or providing someone with feelings of trust of love, and instrumental support, such as spending time with someone or providing them with money (House, Umberson, & Landis, 1988; House, 1981). Instrumental and emotional support can have different effects on depression and other mental health problems; some studies suggests that instrumental support may have stronger effects for men, while others find that both instrumental and emotional support may be important in different contexts (Burleson, 2003; Cheng, 1998). Instrumental support may be particularly important in resisting substance use, as a supportive other could potentially directly discourage substance use or provide the resources necessary to obtain an alternative method of coping. Furthermore, the measure of social support used in this dissertation focused only on support from peers and parents. Other types of social support may potentially be just as or more important to resilience, such as perceived support from siblings, from teachers and employers,

and from one's neighborhood or community. Perceived community support may be especially important for resisting poor outcomes due to internalized homophobia, since awareness of stigma and the internalization of it may rely a great deal on one's community environment.

Hypothesis 4: Resilience moderates the relationship between internalized homophobia and substance use before or during a sexual encounter

It was hypothesized that resilience would act as a moderator in the relationship between internalized homophobia and substance use. In light of the original second hypothesis, the original hypothesis was that resilience would moderate the relationship between internalized homophobia and psychological distress, the mediator in the relationship to substance use. Since the mediation model in hypothesis 2 was not a good fit for the data, the related hypothesis that resilience would act as a moderator in the direct path between internalized homophobia and substance use was tested. The overall measurement model for resilience - including the four indicators of resilience identified in hypothesis 3 - was not a significant moderator in the relationship. However, examination of individual indicators indicated that peer support was a significant moderator in the relationship between internalized homophobia and substance use. Individuals with higher levels of peer support were observed to have a weaker positive relationship between internalized homophobia and substance use compared to those with lower levels of peer support.

This finding contributes to the literature on resilience assets and resources in two ways. One, it highlights that it may be important for researchers to specifically

look at certain assets and resources and how they operate in the lives of young Black MSM. Although the four assets and resources previously identified in hypothesis 3 may jointly influence resilience processes, young Black MSM may call on different assets and resources to deal with different challenges and stressors in their lives. Resilience is not necessarily a homogeneous process. Recovering from life stressors in certain arenas may be complete different, and require different assets and resources, than those in other arenas of life. For example, a person recovering from stress due to discrimination on the basis of sexual identity may engage different assets and resources than someone recovering from stress due to financial difficulties or family disruption. In this way, relationship between resilience and stressors - specifically, the stressor of stigma - may be complex. Given this, researchers should delve more deeply into the study of resilience processes - and the assets and resources that influence them - in young Black MSM. Characterizing these assets and resources could lead to a greater general understanding in how young Black MSM resist the deleterious effects of stigma-induced stress in their lives, as well as the development of more effective intervention programs for this population.

Secondly, these findings single out peer support as a potentially important resource that young black MSM can access in resisting stigma-related stress. The importance of community has been documented in the lives of young black people and young MSM, and previous theoretical frameworks have suggested that young black MSM may rely especially heavily on their peer social support networks (Meyer, 2010). This may be because the kinds of internalized stigma that young Black MSM face may be heavily influenced by experiences of rejection in both of the minority communities to which they belong (Herek & Capitanio, 1995; Stokes & Peterson, 1998). Supportive peers, then, help to counteract those experiences of rejection.

Further research should be conducted to describe the characteristics of peer social support in this population and specifically how young Black MSM deploy this resource to deal with stigma-related stress.

Limitations

Several limitations should be considered when interpreting the results of this dissertation. One limitation is the measurement of internalized homophobia as a person-level factor instead of a time-varying variable that changes from week to week. Most studies investigating the influences of internalized homophobia have measured this factor as a stable personality characteristic of LGB people (Amadio & Chung, 2004; Cabaj, 2000; Currie, Cunningham, & Findlay, 2004; Dew & Chaney, 2005; Meyer, 1995). However, most studies investigating internalized homophobia have also been cross-sectional in nature; as such, most measurements of internalized homophobia conceptualize it as a trait-level factor, and are designed to be deployed at one particular point in time. This dissertation is one of the first investigations of internalized homophobia's association with longitudinal variables. The implication of this limitation is that within-person differences cannot be determined from the results. In other words, while it appears that young Black MSM with overall higher levels of internalized homophobia may be more likely to use alcohol before or during a sexual encounter, it is not possible to say that higher levels of internalized homophobia in a given *week* will translate to a higher probability of alcohol use in that week. In fact, there is little research on the characterization of internalized homophobia and how it might change over time in young Black MSM, including the frequency and severity of its fluctuations. Future research should, then, be devoted to characterizing change in internalized homophobia and assessing whether it may

be a variable better measured on the weekly or daily level, as opposed to an unchanging person-level factor.

Another limitation is the limited number of intervening variables that were taken into account in the model between internalized homophobia and substance use. As mentioned in Shrout and Bolger (2002), intervening variables may be an especially important part of explaining relationships between variables if the direct effect between them is small. In this dissertation, depression was the only mediating variable investigated. However, it is possible that there are multiple other mediating variables that explain the relationship between internalized homophobia and substance use that were not taken into account. Future research into the area should focus on identifying these possible explanatory factors and testing models directed towards understanding the connections between stigma and substance use outcomes.

Furthermore, there are additional resilience resources and assets that could potentially contribute to the construct of resilience in this population. One example that has been minimally explored in the literature is community and neighborhood factors, such as a sense of belonging to one's neighborhood or the availability of social gathering spaces and support systems within one's neighborhood (Ennett, Flewelling, Lindrooth, & Norton, 1997; Jaffee, Caspi, Moffitt, Polo-Tomas, & Taylor, 2007; Kubicek, McNeeley, Holloway, Weiss, & Kipke, 2013; Leventhal & Brooks-Gunn, 2000). There are many other assets and resources that may contribute to resilience processes in young Black MSM, and future research into this population should attempt to identify these factors and incorporate them into research into deleterious health outcomes for young Black MSM.

The characteristics of the sample could be another such limitation when interpreting findings. The sample was a non-probability sample of young Black

MSM all recruited from New York City. Thus, results may not be broadly generalizable to all young Black MSM, especially those who live in suburban or rural areas. The limited number of substance use episodes - particularly drug use other than marijuana and alcohol - was also a limitation in the research, and may account for the lack of relationships supported between these drugs and the hypothesized independent variables. The sample size was also relatively small for the structural equation modeling technique used.

Causal inferences cannot be made from the findings in this dissertation. The purpose of the investigation was to identify potential relationships between variables. Longitudinal assessments attempt to give a time-ordered relationship between variables. However, this method does not allow for true causal inference. The exact timing of the substance use was not known; for example, taking substances *before* a sexual encounter may have a different effect than taking them *during* a sexual encounter. Temporal proximity might also make a difference, with drugs taken a few hours before an encounter potentially having a different effect than those taken only a few minutes before. Future studies in this area may make use of experimental or quasi-experimental methods when exploring the effects of stigma on substance use outcomes, or may measure substance use on the daily level to allow for a more granular examination of substance use.

Implications

The findings from this dissertation add dimension to the body of literature supporting both the minority stress model and the conceptualization of substance use as a potential deleterious coping mechanism for young Black MSM. As mentioned in the review of the literature, the minority stress model posits that

members of minority, marginalized groups are subject to additional chronic stress - over and above that experienced by those in societally advantaged groups - due to bearing stigma in society (Meyer, 1995). Meyer (1995) conceived of internalized homophobia as one of the main components of minority stress in gay and bisexual men - hypothesizing, and finding empirical support for, the notion that members of minority groups often internalize and come to believe the negative stereotypes about them and that buying into these stereotypes harms their health and well-being. In turn, much of the coping literature - particularly work done by McKirnan and colleagues (1989; 2001) - suggests that when these young men experience the discomfort of psychological distress within sexual situations, which make internalized homophobia more salient, they may use substances as an "escape" or coping mechanism.

In this sample of young Black gay and bisexual men, internalized homophobia was related to both generalized psychological distress and alcohol use before or during sexual encounters. These findings, then, provide evidence that internalizing stigma is associated with higher levels of both psychological distress and alcohol use during sex for young Black gay and bisexual men. This is also significant because most prior studies on this issue have been done with predominantly white samples. Although internalized homophobia may operate differently in young Black gay and bisexual men - in part because of their double-minority status that disadvantages them in both Black and gay communities, and in part because of different theoretical conceptions of masculinity in Black communities - the findings from this dissertation supports that internalized homophobia is still related to two deleterious outcomes for this population.

However, these findings were only supported with alcohol. There is a quite large body of literature suggesting alcohol is uniquely associated with avoidant coping mechanisms and is often the drug of choice for an escapist encounter (Pearlin & Radabaugh, 1976; Cooper et al., 1988; Fromme & Rivet, 1994; Holahan et al., 2001). Less research exists about the association between avoidant coping with distress and other substances, particularly illicit substances. It is likely that there are different, multidimensional associations with different kinds of substances for young Black MSM. Alcohol is freely available, especially at venues at which young Black MSM tend to gather. Other illicit substances may be more difficult to obtain - and they also may have differential psychological associations for young Black MSM. For example, amyl nitrite ("poppers") have been established in the literature as associated with sexual encounters for young gay men (Mimiaga et al., 2010). Young Black MSM may also use substances less than young white MSM, potentially making them less likely to turn to them to deal with psychological distress (Millett et al., 2007). In addition, if young Black MSM are less connected to the gay community - a notion supported by some prior research - it is also possible that young Black MSM have less access to the substances of choice accessible by the rest of gay community, which may be why their patterns of use, and thus outcomes, differ from those found in young white MSM.

Also, although the finding that internalized homophobia is related individually to the two outcomes of psychological distress and alcohol use, the finding that psychological distress does not *mediate* the relationship between internalized homophobia and alcohol in this sample raises questions about the ways in which internalized homophobia influences alcohol use. It is possible that there are several other intervening variables between internalized homophobia, psychological

distress and the ultimate outcome of alcohol use during sexual encounters, and that this complex relationship needs further study and more sophisticated techniques to assess it. In addition, it is possible that internalized homophobia passes through a more specific kind of psychological experience instead of more generalized distress, - such as anxiety or depression. It is also possible that internalized homophobia has a direct effect on substance use - that young Black MSM acutely and consciously feel the consequences of being gay in a heterosexist world and thus consciously use drugs to escape that reality during sexual encounters. Some past qualitative research with young MSM has observed that they are fully capable of recognizing the internalization of harmful messages about their sexual identity, and that they often consciously choose ways in which to deal with these harmful messages (Flowers & Buston, 2001; Kubicek et al., 2013). In a world in which they may have few other coping mechanisms, young Black MSM may simply choose to use substances to distance themselves from these hurtful internalized messages, especially in the potentially threatening context of a sexual experience with another man.

In these analyses, having sex with more than one sexual partner was also associated with higher levels of psychological distress. Having multiple sexual partners is also a potentially risky sexual behavior. First of all, it increases the number of potential partners that can possibly transmit HIV or another sexually transmitted infection to a person. Secondly, multiple partners may make condom use and substance use negotiation more difficult within sexual situations, especially if some of the partners are casual sexual partners.

This dissertation contributes to the current research on resilience. As noted in the review of the literature, resilience is a concept that has been difficult to define and characterize (Herrick, Stall, Goldhammer, et al., 2013; Kwon, 2013). Many

different definitions of resilience have been put forth, and many different personal assets and community resources have been suggested as contributory factors in one's ability to engage resilience processes. Resilience has also not often been studied in young Black MSM; most research with MSM in general has focused on their personal and community deficits in an attempt to understand why they engage in risk behavior. This dissertation sets for a theoretical model for several personal assets and resources that contribute to resilience specifically in young Black MSM. Hardiness, coping mastery, maternal social support and peer social support all seem to contribute to a theoretical model of resilience in young Black MSM.

However, the findings also suggest that resilience is a complex construct; certain assets and resources may function better than others under certain circumstances. Peer social support may be a particularly important resource for avoiding alcohol use before or during a sexual encounter in the wake of internalized homophobia. This makes theoretical sense; since internalized homophobia is a typically socially developed facet of stigma - a result of societal prejudice - having a strong peer support system, one that potentially supports one's sexual identity, could offset the negative effects of socially constructed denigration. Peer social support could also indicate a greater level of integration into a gay community, which may be especially important for combating internalized homophobia. The affirming nature of belonging to a community of peers who accept and support one's sexual identity may be an important factor in battling internalized fears of rejection and marginalization. It is entirely possible that the other resources and assets examined in this dissertation may have more use in other contexts. For example, hardiness and/or mastery may be important personal assets for resisting distress in the wake of actual enacted stigma; a strong mastery over coping skills and a hardy personality

may be more important for reacting to in-the-moment forms of stress. Maternal support could be more important for preventing against unprotected sexual intercourse and HIV disease progression; there is evidence that the effect of maternal support is robust in these areas (Glick & Golden, 2013; Pingel et al., 2012).

A strength of this dissertation is the incorporation of a longitudinal sex diary in the research design. A strength of diary designs is that they allow for the examination of experiences within their natural context (Bolger et al., 2003). The weekly diary design of the parent study allows for an examination of substance use within naturally occurring sexual situations. The weekly diary design requires a shorter recall period. Participants only had recall their substance use and sexual behavior in the week prior to completing the survey - not think back three to six months. Prior research indicates that this which may make memory and the self-reported behaviors more accurate and can help guard against recall behaviors that tend to distort memory (Downey et al., 1995; Horvath et al., 2007). It also allows researchers to aggregate behaviors over time to get a potentially more accurate average pattern of behavior, which can be useful when performing between-person analyses (Bolger et al., 2003).

This research has implications for intervention design within public health, as well as interactions between health professionals and their Black gay and bisexual clients/patients. Most current interventions substance use as an HIV risk behavior for young Black MSM address individual, behavioral concerns and attempt to change attitudes and behaviors in individual men. In order to be maximally effective, however, public health practitioners need to turn attention to structural concerns. Internalized homophobia is - in part - shaped by community attitudes and prevailing prejudices in the societal milieu. Although changing structural factors is difficult and

time-consuming, the reduction of HIV in young MSM cannot be fully accomplished with addressing these factors. A successful intervention may involve not only recruiting young Black MSM themselves, but also recruiting family and community members. For example, a successful social marketing campaign might attempt to change attitudes towards young Black MSM by sending the message that stereotyping and prejudice against these populations is unacceptable and socially undesirable. Mental health counseling to address psychological distress symptoms in young Black MSM may involve group or family therapy, as often, their symptoms may be exacerbated by interactions with homophobic family members or peer groups. Health care providers concerned about their Black gay or bisexual clients'/patients' sexual risk behavior may want to take a holistic approach to addressing the problem, asking about family and peer concerns to support their clients/patients in behavior change.

In addition, public health practitioners and health care providers must turn from a solely deficit-based model to one that appreciates and utilizes the strengths that young Black MSM possess. As noted by Herrick and others (Herrick, Stall, Goldhammer, et al., 2013; Herrick, Stall, Chmiel, et al., 2013), most young Black MSM have managed to avoid HIV and sexually transmitted infections. Their personal resilience may be even more enhanced by prior experience dealing with racial rejection and prejudice from an early age (Meyer, 2010). In order to enhance their effectiveness, interventions may capitalize on the resilience assets and resources young Black MSM already possess and may focus attention on developing and strengthening those resources. For example, a potentially strong intervention may focus on helping young Black MSM figure out how to successfully access social support from peers and family members, or how to harness the personality

characteristics that may aid them in engaging in resilience processes. Health care providers working with young Black MSM may encourage them to use support from family and friends to their benefit in health care regimens, such as adhering to antiretroviral treatment or avoiding the use of drugs to cope with stressors.

Future Directions for Research

One potential area for future research is characterizing other intervening factors in the pathway from internalized homophobia and substance use. As mentioned earlier in this chapter, there many be several other explanatory factors that fully explicate the relationship between these two variables. Researchers could explore more specific indicators of distress, such as depression, anxiety, and somatization of distress.

A further area of additional research is exploring other aspects of stigma. One limitation of this study was the examination of internalized homophobias a person-level variable measured once at baseline. Virtually all studies of internalized homophobia have measured this factor in the same way; however, it is likely that internalized homophobia fluctuates, and that the fluctuations may be frequent enough to capture in a weekly or daily diary study - especially in young Black MSM, many of whom are either fresh from or still experiencing their coming-out process. These fluctuations may have an impact upon psychological distress and substance use during sexual encounters. Researchers should investigate the changing nature of internalized homophobia with longitudinal studies. One potential area of investigation could be how internalized homophobia changes over the course of the coming-out process, examining young men who are near the beginning and following them as they reveal their identity to their social networks.

In addition, future research should also focus on other aspects of the minority stress model, perceived prejudice/discrimination and enacted discrimination. A daily diary study might be especially well-suited for investigating the impact of "microaggressions," or brief, commonplace interactions that convey hostile or derogatory insults to members of marginalized groups on the basis of their group membership (Sue et al., 2007), Microaggressions are smaller-scale versions of enacted stigma that can happen daily; and the occurrence of one can make a marginalized identity - and any internalized stigmas attached to that identity - salient, and may influence a young Black gay or bisexual man's psychological distress and substance use behaviors in that day. Researchers interested in looking at the relationship between stigma and poor heath outcomes on a longitudinal level could investigate these microaggressions as precipitates for fluctuations in mental health and risk outcomes.

Currently, there is a surge of interest in documenting physiological markers of stress and distress, such as measuring action within the hypothalamic-pituitary-adrenal (HPA) axis. The interactions between the organs involved in the HPA axis are physiological indicators of stress, and have been used by researchers to more objectively measure stress responses in people. There have been a few studies investigating links between HPA activity and experiences with stigma in young MSM (Hatzenbuehler & McLaughlin, 2014; Huebner & Davis, 2005), but there is still much work to be done in this area, particularly with young Black MSM. In particular, researchers may be interested in measuring stress reactivity - or how strongly young Black MSM react to potential stigma or discrimination. Differences and fluctuations in reactivity have been linked to certain physical health disorders, and the inability to properly regulate HPA axis activity may contribute to poor mental health (Dienstbier,

1989; Gross & Muñoz, 1995; Heim, Newport, Mletzko, Miller, & Nemeroff, 2008; Jackson, Knight, & Rafferty, 2010; Pariante & Lightman, 2008). Researchers may also be interested in engaging in experimental examinations of the effects of stigma on physiological markers of stress, perhaps by inducing internalized stigma or precipitating a discriminatory experience and measuring stress reactivity to that experience.

There is currently a dearth of research on resilience factors in young MSM in general, but particularly young Black MSM. Future research might focus on delineating models of resilience in this population and investigating how resilience resources and assets may potentially buffer the relationship between structural factors and poor health outcomes. Although five resources and assets were examined in this dissertation, there are numerous other potential resilience resources and assets, such as neighborhood structure, levels of community support, the ability to delay gratification, and religiosity. Researchers should continue to investigate factors that may influence resilience in young Black men.

Finally, a neglected area of research is intersectionality and its relationship to stigmatization of individuals with multiple group identities. While a specific "double-minority" group's experiences with stigma was investigated in this dissertation, the data collected did not allow for a critical examination of the intersection between stigma based upon race and stigma based upon sexual identity. Part of the lack of research in this area is attributed to the difficulty in conceptualizing and measuring intersectionality (Bowleg, 2008). However, there is some evidence that this intersection may play a large role in the patterns of health behavior and well-being in young Black MSM. Work with black MSM has shown that concepts of masculinity often differ in Black communities, which may affect the

stereotypes and prejudices that arise about young Black MSM specifically and thus affect the messages that they internalize about their own identities. In addition, feelings of rejection may be intensified because of minority-within-a-minority status in both their sexual identity and racial communities. Future work, then, should focus on clarifying the concept of intersectionality, devising measurement strategies for the phenomenon and then investigating how intersections between race and sexual identity may play a role in the health of young Black MSM.

In summary, the results of this dissertation offers insight into the relationship between minority stress in the form of internalized homophobia, psychological distress, and substance use in the context of sexual situations. It also offers a theoretical conception of resilience and links one resilience resource as a buffer in the relationship between a negative structurally-linked factor - internalized stigma - and alcohol use during sexual encounters. Hopefully, the results of this dissertation may inform the work of public health practitioners engaged in intervention design with young Black MSM, as well as health care providers who work with members of this population. In addition, it is hoped that this dissertation will contribute to pushing the field forward, particularly in the areas of investigating the potential deleterious effects of stigma and discrimination and in discovering strengths and resiliencies to build upon in young Black men who have sex with men.

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